

PROJECT MANUAL



NEW FIRE ALARM SYSTEM BEAR RIVER HIGH SCHOOL 1 1 1 3 0 MAGNOLIA ROAD Grass Valley, California

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JANUARY 16, 2018

DESIGN PROFESSIONAL STAMP PAGE

SIGNATURE AND APPROVAL
for
BEAR RIVER HIGH SCHOOL - FIRE ALARMS
for the
NEVADA JOINT UNION HIGH SCHOOL DISTRICT
NEVADA COUNTY, CALIFORNIA

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THE ENGINEERING ENTERPRISE
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AUBURN, CA 95603



Scott Wheeler #E015494

IDENTIFICATION STAMP	
DIV. OF THE STATE ARCHITECT	
02	116222
AC	— PS —
DATE	1/2/18

Division	Section Title

00000 SEALS PAGE

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NEVADA JOINT UNION HIGH SCHOOL DISTRICT
FOR
BEAR RIVER HIGH SCHOOL FULLY AUTOMATED FIRE
ALARM SYSTEM
AT
BEAR RIVER HIGH SCHOOL
11130 Magnolia Road
Grass Valley, CA 95949
Project Tracking No. 66357-28
DSA Application No. 02-116222

NEVADA JOINT UNION HIGH SCHOOL DISTRICT
11645 Ridge Road
Grass Valley, CA 95945

January 12, 2018

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NOTICE INVITING BIDS

NEVADA JOINT UNION HIGH SCHOOL DISTRICT

NOTICE IS HEREBY GIVEN that the Nevada Joint Union High School District, acting by and through its Governing Board, hereinafter referred to as "District", will receive prior to **3:00 p.m. on the 12th day of February, 2018** sealed bids for the award of a Contract for the following:

BEAR RIVER HIGH SCHOOL FULLY AUTOMATED FIRE ALARM SYSTEM

All bids shall be made and presented only on the forms presented by the District. Bids shall be received in the **NJUHSD District Office at 11645 Ridge Road, Grass Valley, California 95945** and shall be opened and publicly read aloud at the above state time and place. Any bids received after the time specified above or after any extensions due to material changes shall be returned unopened.

The Contract Time is **EIGHTY-NINE (89)** calendar days.

CONTRACTOR should consult the General Conditions, Supplementary Conditions, and General Requirements regarding Milestones and Liquidated Damages.

Prequalification of Bidders

As a condition of submitting a bid for this Project, and in accordance with California Public Contract Code section 20111.6, prospective bidders are required to submit to the District a completed set of prequalification documents on forms provided by the District. These documents will be the basis for determining which bidders are qualified to bid on this Project.

Bids will not be accepted if a Contractor has not been prequalified. Prequalification documents are available from the Nevada Joint Union High School District Website at www.NJUHSD.com, top tab Measure B. Prequalification documents must be submitted by January 29, 2018. Contractors will be notified by e-mail of their prequalification rating within a reasonable period of time after submission of their prequalification documents, but not less than five (5) business days prior to the bid opening date.

If this Project includes work that will be performed by mechanical, electrical or plumbing ("MEP") subcontractors (contractors that **hold** C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or C-46 licenses), such MEP subcontractors must also be prequalified. A list of prequalified MEP subcontractors will be made available by the District to all bidders at least five business days prior to the bid opening date. It is the responsibility of the bidder to ensure that all MEP subcontractors **holding** any of the licenses listed above are properly prequalified before submitting a bid. This prequalification requirement applies even if the subcontractor will perform, or is designated to perform, work that does not require one of the licenses listed above, but the subcontractor **holds** one of the licenses listed above.

There are No Additive/ Deductive Bid Alternates

Miscellaneous Information

Bids shall be received in the place identified above, and shall be opened and publicly read aloud at the above-stated time and place.

The bid documents are available at the **Nevada County Contractors' Association** (www.nccabuildingpros.com), 149 Crown Point Circle #A, Grass Valley, CA 95945; the **Placer County Contractors Association** (www.placerbx.com), 10656 Industrial Ave #160, Roseville, CA 95678; and affiliates of the **Federation of California Builders Exchanges** (www.calbx.com) or ordered from **The Real Graphic Source** (at contractor's expense) by calling 530-273-8835.

There will be a mandatory Pre-Bid Conference/Job Walk on Monday, January 29, 2018 at 3:00 p.m. (meet at the Administration Office). Any Contractor bidding on the Project who fails to attend the entire mandatory job walk and conference will be deemed a non-responsive bidder and will have its bid returned unopened.

Each bidder shall be a licensed contractor pursuant to the California Business and Professions Code, and be licensed to perform the work called for in the Contract Documents. The successful bidder must possess a valid and active Class **C-10** License at the time of bid and throughout the duration of this Contract. The Contractor's California State License number shall be clearly stated on the bidder's proposal.

Subcontractors shall be licensed pursuant to California law for the trades necessary to perform the Work called for in the Contract Documents.

Each bid must strictly conform with and be responsive to the Contract Documents as defined in the General Conditions.

The District reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding.

Each bidder shall submit with its bid — on the form furnished with the Contract Documents — a list of the designated subcontractors on this Project as required by the Subletting and Subcontracting Fair Practices Act, California Public Contract Code section 4100 et seq.

In accordance with California Public Contract Code section 22300, the District will permit the substitution of securities for any moneys withheld by the District to ensure performance under the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the District, or with a state or federally chartered bank as the escrow agent, who shall then pay such moneys to the Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor.

Each bidder's bid must be accompanied by one of the following forms of bidder's security: (1) cash; (2) a cashier's check made payable to the District; (3) a certified check made payable to the District; or (4) a bidder's bond executed by a California admitted surety as defined in Code of Civil Procedure section 995.120, made payable to the District in the form set forth in the Contract Documents. Such bidder's security must be in an amount not less than ten percent (10%) of the maximum amount of bid as a guarantee that the bidder will enter into the proposed Contract, if the same is awarded to such bidder,

and will provide the required Performance and Payment Bonds, insurance certificates and any other required documents. In the event of failure to enter into said Contract or provide the necessary documents, said security will be forfeited.

The Contractor and all subcontractors shall comply with the requirements set forth in Division 2, Part 7, Chapter 1 of the Labor Code. The District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this work is to be performed for each craft, classification or type of worker needed to execute the Contract. These per diem rates, including holiday and overtime work, as well as employer payments for health and welfare, pension, vacation, and similar purposes, are on file at the District, and are also available from the Director of the Department of Industrial Relations. Pursuant to California Labor Code section 1720 et seq., it shall be mandatory upon the Contractor to whom the Contract is awarded, and upon any subcontractor under such Contractor, to pay not less than the said specified rates to all workers employed by them in the execution of the Contract.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in the Labor Code, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

The Contractor and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the District or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE).

No bidder may withdraw any bid for a period of ninety (90) calendar days after the date set for the opening of bids.

Separate payment and performance bonds, each in an amount equal to 100% of the total Contract amount, are required, and shall be provided to the District prior to execution of the Contract and shall be in the form set forth in the Contract Documents.

All bonds (Bid, Performance, and Payment) must be issued by a California admitted surety as defined in California Code of Civil Procedure section 995.120.

Bidders must meet the requirements set forth in Public Contract Code section 10115 et seq., Military and Veterans Code section 999 et seq. and California Code of Regulations, Title 2, Section 1896.60 et seq. regarding Disabled Veteran Business Enterprise (“DVBE”) Programs. Forms are included in this Bid Package.

Any request for substitutions pursuant to Public Contract Code section 3400 must be made at the time of Bid on the Substitution Request Form set forth in the Contract Documents and included with the bid.

No telephone or facsimile machine will be available to bidders on the District premises at any time.

It is each bidder's sole responsibility to ensure its bid is timely delivered and received at the location designated as specified above. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

NEVADA JOINT UNION HIGH SCHOOL DISTRICT

INSTRUCTIONS TO BIDDERS

1. Preparation of Bid Form. Proposals under these specifications shall be submitted on the blank forms furnished herewith at the time and place stated in the Notice Inviting Bids. All blanks in the bid form must be appropriately filled in, and all proposed prices must be stated clearly and legibly in both words and numerals. All bids must be signed by the bidder in permanent blue ink and submitted in sealed envelopes, bearing on the outside, the bidder's name, address, telephone number, and California Contractor's License number, and the name of the Project for which the bid is submitted. The District reserves the right to reject any bid if all of the above information is not furnished. It is each bidder's sole responsibility to ensure its bid is timely delivered and received at the location designated as specified above. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

2. Bid Security. Each bid must be accompanied by one of the following forms of bidder's security: (1) cash; (2) a cashier's check made payable to the District; (3) a certified check made payable to the District; or (4) a bidder's bond executed by a California admitted surety as defined in Code of Civil Procedure section 995.120, made payable to the District, in the form set forth in the Contract Documents. Such bidder's security must be in an amount not less than ten percent (10%) of the maximum amount of such bidder's bid as a guarantee that the bidder will enter into the Contract, if the same is awarded to such bidder, and will provide the required Performance and Payment Bonds, insurance certificates and any other required documents. In the event that a bidder is awarded the Contract and such bidder fails to enter into said Contract or provide the surety bond or bonds within five (5) calendar days after award of the Contract to bidder, said security will be forfeited.

3. Signature. The bid form, all bonds, all designations of subcontractors, the Contractor's Certificate, the Agreement, and all Guarantees must be signed in permanent blue ink in the name of the bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid.

If bidder is a corporation, the legal name of the corporation shall first be set forth, together with two signatures: one from the President and one from the Secretary or Assistant Secretary. Alternatively, the signature of other authorized officers or agents may be affixed, if a certified copy of the resolution of the corporate board of directors authorizing them to do so is provided to the District. Such documents shall include the title of such signatories below the signature and shall bear the corporate seal.

If bidder is a partnership, the true name of the firm shall first be set forth, together with the names of all persons comprising the partnership or co-partnership. The bid must be signed by all partners comprising the partnership unless proof in the form of a certified copy of a statement of partnership acknowledging the signer to be a general partner is presented to the District, in which case the general partner may sign.

Bids submitted as joint ventures must so state and be signed by each joint venturer.

Bids submitted by individuals must be signed by the bidder unless an up to date power-of-attorney is on file in the District office, in which case, said person may sign for the individual.

The above rules also apply in the case of the use of a fictitious firm name. In addition, however, where a fictitious name is used, it must be so indicated in the signature.

4. Modifications. Changes in or additions to the bid form, recapitulations of the work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the Contract Documents may result in the District's rejection of the bid as not being responsive to the Notice Inviting Bids. **No oral or telephonic modification of any bid submitted will be considered.**

5. Erasures, Inconsistent or Illegible Bids. The bid submitted must not contain any erasures, interlineations, or other corrections unless each such correction creates no inconsistency and is suitably authenticated by affixing in the margin immediately opposite the correction the signature or signatures of the person or persons signing the bid. In the event of inconsistency between words and figures in the bid price, words shall control figures. In the event that the District determines that any bid is unintelligible, inconsistent, or ambiguous, the District may reject such bid as not being responsive to the Notice Inviting Bids.

6. Examination of Site and Contract Documents. Each bidder shall visit the site of the proposed work and become fully acquainted with the conditions relating to the construction and labor so that the facilities, difficulties, and restrictions attending the execution of the work under the Contract are fully understood. Bidders shall thoroughly examine and be familiar with the drawings and specifications and all other documents and requirements that are attached to and/or contained in the Project Manual or other documents issued to bidders. The failure or omission of any bidder to receive or examine any Contract Documents, form, instrument, addendum, or other document or to visit the site and become acquainted with conditions there existing shall not relieve any bidder from obligations with respect to the bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this Section. Bidders shall not, at any time after submission of the bid, dispute, complain, or assert that there were any misunderstandings with regard to the nature or amount of work to be done.

7. Withdrawal of Bids. Any bid may be withdrawn, either personally or by written request, at any time prior to the scheduled closing time for receipt of bids. The bid security for bids withdrawn prior to the scheduled closing time for receipt of bids, in accordance with this paragraph, shall be returned upon demand therefor.

No bidder may withdraw any bid for a period of ninety (90) calendar days after the date set for the opening of bids.

8. Agreements, Insurance and Bonds. The Agreement form which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of surety bonds and insurance endorsements which Contractor will be required to be furnished at the time of execution of the Agreement, are included in the bid documents and should be carefully examined by the bidder. The number of executed copies of the Agreement, the Performance Bond, and the Payment Bond required is one (1). Payment and Performance bonds must be executed by an admitted surety insurer as defined in Code of Civil Procedure 995.120.

9. Interpretation of Plans and Documents/Pre-Bid Clarification. If any prospective bidder is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in, or omissions, a written request for an interpretation or correction thereof may be submitted to the District. The bidder submitting the request shall be responsible for its prompt delivery. **Any interpretation or correction of the Contract Documents will only be made by Addendum duly issued, and a copy of such Addendum will be made available for each contractor receiving a set of the Contract Documents.** No person is authorized to make any oral interpretation of any provision in the Contract Documents, nor shall any oral interpretation be binding on the District. If discrepancies on drawings, specifications or elsewhere in the Contract Documents are not covered by addenda, bidder shall include in

their bid methods of construction and materials for the higher quality and complete assembly. Each request for clarification shall be submitted in writing, via email, to only the following persons:

TO: Andrew Pawlowski, Project Architect; ajp@sitelinearch.com
CC: Paul Palmer, Director of Planning & Construction; ppalmer@njuhsd.com

Each transmitted request shall contain the name of the person and/or firm filing the request, address, telephone, and fax number, Specifications and/or Drawing number. Bidder is responsible for the legibility of hand written requests. Pre-bid clarification request shall be filed a minimum of **six (6)** days prior to bid opening. Requests received less than **six (6)** days before bid opening shall not be considered or responded to. A written response to timely pre-bid clarifications requests which materially affects the bidders price will be made by Addendum issued by the District not less than seventy-two (72) hours prior to bid opening.

10. Bidders Interested in More Than One Bid. No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one prime bid for the same work unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a proposal or quoting prices to other bidders or making a prime proposal.

11. Award of Contract. The Contract will be awarded to the lowest responsive responsible bidder by action of the governing Board. The District reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding. In the event an award is made to bidder, and such bidder fails or refuses to execute the Contract and provide the required documents within five (5) calendar days after award of the Contract to bidder, the District may award the Contract to the next lowest responsible and responsive bidder or release all bidders. **Each bid must conform and be responsive to the Contract Documents as defined in the General Conditions.**

12. Bid Protest Procedure. Any bidder may file a bid protest. The protest shall be filed in writing with the District's Director of Planning and Construction not more than five (5) business days after the date of the bid opening. An e-mail address shall be provided and by filing the protest, protesting bidder consents to receipt of e-mail notices for purposes of the protest and protest related questions and protest appeal, if applicable. The protest shall specify the reasons and facts upon which the protest is based.

a. Resolution of Bid Controversy: Once the bid protest is received, the apparent lowest responsible bidder will be notified of the protest and the evidence presented. If appropriate, the apparent low bidder will be given an opportunity to rebut the evidence and present evidence that the apparent low bidder should be allowed to perform the Work. If deemed appropriate by the District, an informal hearing will be held. District will issue a written decision within fifteen (15) calendar days of receipt of the protest, unless factors beyond the District's reasonable control prevent such resolution. The decision on the bid protest will be copied to all parties involved in the protest.

b. Appeal: If the protesting bidder or the apparent low bidder is not satisfied with the decision, the matter may be appealed to the District Superintendent or their designee, within three (3) business days after receipt of the District's written decision on the bid protest. The appeal must be in writing and sent via overnight registered mail with all accompanying information relied upon for the appeal and an e-mail address from which questions and responses may be provided to:

Nevada Joint Union High School District Superintendent
11645 Ridge Road, Grass Valley, CA 95945

c. Appeal Review: The District Superintendent or their designee shall review the decision on the bid protest from the Director of Planning and Construction and issue a written response to the appeal, or if appropriate, appoint a Hearing Office to conduct a hearing and issue a written decision. The written decision of the Superintendent (or their designee) or the Hearing Officer shall be rendered within fifteen (15) calendar days and shall state the basis for the decision. The decision concerning the appeal will be final and not subject to any further appeals.

d. Reservation of Rights to Proceed with Project Pending Appeal. The District reserves the right to proceed to award the Project and commence construction pending an Appeal. If there is State Funding or a critical completion deadline, the District may choose to shorten the time limits set forth in this Section if written notice is provided to the protesting party. E-mailed notice with a written confirmation sent by First Class Mail shall be sufficient to constitute written notice. If there is no written response to a written notice shortening time, the District may proceed with the award.

e. Finality. Failure to comply with this Bid Protest Procedure shall constitute a waiver of the right to protest and shall constitute a failure to exhaust the protesting bidder's administrative remedies.

13. Alternates. If alternate bids are called for, the Contract may be awarded at the election of the Governing Board to the lowest responsible and responsive bidder using the method and procedures outlined in the Notice Inviting Bids and as specified in the section entitled Alternate/Deductive Bid Alternates.

a. Subcontractor Listing for Alternates. If alternate bids are called for and the bidder intends to use different or additional subcontractors, a separate list of subcontractors must be submitted for each such alternate.

14. Evidence of Responsibility. Upon the request of the District, a bidder whose bid is under consideration for the award of the Contract shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, surety and insurance claims experience, construction experience, completion ability, workload, organization available for the performance of the Contract, and other factors pertinent to a Project of the scope and complexity involved.

15. Listing Subcontractors. Each bidder shall submit with his bid, on the form furnished with the Contract Documents, a list of the names, license numbers, scopes of work, locations of the places of business, contact information, and Department of Industrial Relations ("DIR") registration numbers of each subcontractor who will perform work or labor or render service to the bidder in or about the project, or a subcontractor who under subcontract to the bidder, specially fabricates and installs a portion of the work, in an amount in excess of one-half of 1 percent of the bidder's total bid as required by the Subletting and Subcontracting Fair Practices Act (Public Contract Code section 4100, et seq.) Pursuant to Labor Code section 1725.5, all subcontractors (of any tier) performing work on this Project must be properly registered with DIR.

16. Workers' Compensation. In accordance with the provisions of Labor Code section 3700, the successful bidder as the Contractor shall secure payment of compensation to all employees. The Contractor shall sign and file with the District the following certificate prior to performing the work under this contract: "I am aware of the provisions of Section 3700 of the Labor Code, which requires 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." The form of such certificate is included as a part of the Bid Documents.

17. Contractor's License. To perform the work required by this notice, the Contractor must possess the Contractor's License as specified in the Notice Inviting Bids, and the Contractor must maintain the license throughout the duration of the contract. If, at the time of bid, bidder is not licensed to perform the Project in accordance with Division 3, Chapter 9, of the Business and Professions Code for the State of California and the Notice to Contractors calling for bids, such bid will not be considered and the Contractor will forfeit its bid security to the District.

18. Anti-Discrimination. It is the policy of the District that in connection with all work performed under contracts, there be no discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, or marital status. The Contractor agrees to comply with applicable federal and California laws, including, but not limited to, the California Fair Employment and Housing Act, beginning with Government Code section 12900 and Labor Code section 1735. In addition, the Contractor agrees to require like compliance by any subcontractors employed on the work by such Contractor.

19. Preference for Materials and Substitutions.

a. One Product Specified. Unless the Plans and Specifications state that no Substitution is permitted, whenever the Contract Documents indicate any specific article, device, equipment, product, material, fixture, patented process, form, method, construction, or any specific name, make, trade name, or catalog number, with or without the words, "or equal," such specification shall be read as if the language "or equal" is incorporated.

b. Request for Substitution. Bidder may, unless otherwise stated, offer any material, process, article, etc., which is materially equal or better in every respect to that so indicated or specified ("Specified Item") and will completely accomplish the purpose of the Contract Document. If bidder desires to offer a Substitution for a Specified Item, such bidder must make a request in writing on the District's Substitution Request Form ("Request Form") and submit the completed Request Form with the bidder's bid. The Request Form must be accompanied by evidence as to whether the proposed substitution:

- 1) Is equal in quality, service, and ability to the Specified Item as demonstrated by a side by side comparison of key characteristics and performance criteria (CSI comparison chart);
- 2) Will entail no changes in detail, construction and scheduling of related work;
- 3) Will be acceptable in consideration of the required design and artistic effect;
- 4) Will provide no cost disadvantage to the District;
- 5) Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
- 6) Will require no change in the Contract Time.

In completing the Request Form, bidder must state with respect to each requested substitution whether bidder will agree to provide the Specified Item in the event that the District denies bidder's request for substitution of a Specified Item. In the event that bidder does not agree in the Request Form to provide the Specified Item and the District denies the requested Substitution, the bidder's bid shall be considered non-responsive and the District may award the Contract to the next lowest bidder or in its sole discretion, release all bidders. In the event that bidder has agreed in the Request Form to provide the Specified Item and the District denies bidder's requested substitution for a Specified Item, bidder shall execute the Agreement and provide the Specified Item without any additional cost or charge to the District, and if bidder fails to execute the Agreement with the Specified Item(s), bidder's bid bond will be forfeited.

After the bids are opened, the apparent lowest bidder shall provide, within five (5) calendar days of opening such bids, any and all Drawings, Specifications, samples, performance data, calculations, and other information as may be required to assist the Architect and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

After the District's receipt of such evidence by bidder, the District will make its final decision as to whether the bidder's request for Substitution for any Specified Items will be granted. The District shall have sole discretion in deciding as to whether a proposed request for Substitution is equal to or better than a Specified Item. Any request for Substitution which is granted by the District shall be documented and processed through a Change Order. The District may condition its approval of any Substitution upon delivery to the District of an extended warranty or other assurances of adequate performance of the Substitution. Any and all risks of delay due to DSA, or any other governmental agency having jurisdiction shall be on the bidder.

20. Disqualification of Bidders and Proposals. More than one proposal for the same work from any individual, firm, partnership, corporation, or association under the same or different names will not be accepted; and reasonable grounds for believing that any bidder is interested in more than one proposal for the work will be cause for rejecting all proposals in which such bidder is interested and the bidder will forfeit their bid security to the District.

21. Unbalanced or Altered Bids. Proposals in which the prices are obviously unbalanced, and those which are incomplete or show any alteration of form, or contain any additions or conditional or alternate bids that are not called for or otherwise permitted, may be rejected. A proposal on which the signature of the bidder has been omitted may be rejected. If, in the District's sole discretion, it determines any pricing, costs or other information submitted by a bidder may result in an unbalanced bid, the District may deem such bid non-responsive. A bid may be determined by the District to be unbalanced if the bid is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the District even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advanced payment.

22. Employment of Apprentices. The Contractor and all Subcontractors shall comply with the provisions of California Labor Code including, but not limited to sections 1777.5, 1777.6, and 1777.7 concerning the employment of apprentices. The Contractor and any Subcontractor under him shall comply with the requirements of said sections, including applicable portions of all subsequent amendments in the employment of apprentices; however, the Contractor shall have full responsibility for compliance with said Labor Code sections, for all apprenticeable occupations, regardless of any other contractual or employment relationships alleged to exist.

23. Non-Collusion Declaration. Public Contract Code section 7106 requires bidders to submit declaration of non-collusion with their bids. This form is included with the bid documents and must be signed and dated by the bidder under penalty of perjury.

24. Wage Rates, Travel and Subsistence.

a. The Contractor and all subcontractors shall comply with the requirements set forth in Division 2, Part 7, Chapter 1 of the Labor Code. Pursuant to Labor Code section 1770 et seq., the District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this

work is to be performed for each craft, classification or type of worker needed to execute the contract. Copies are available from the District to any interested party on request and are also available from the Director of the Department of Industrial Relations. The Contractor shall obtain copies of the above-referenced prevailing wage sheets and post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Site.

b. Any worker employed to perform work on the Project and such work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.

c. Holiday and overtime work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the Contract Documents or authorized by law.

d. These per diem rates, including holiday and overtime work, and employer payments for health and welfare, pension, vacation, and similar purposes, are on file at the administrative office of the District, located as noted above and are also available from the Director of the Department of Industrial Relations. It is the Contractor's responsibility to ensure the appropriate prevailing rates of per diem wages are paid for each classification. It shall be mandatory upon the Contractor to whom the Contract is awarded, and upon any subcontractor under such Contractor, to pay not less than the said specified rates to all workers employed by them in the execution of the Contract.

25. DIR Registration of Contractor and Subcontractors. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

This Project is a public works project as defined in Labor Code section 1720. Each contractor bidding on this Project and all subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with DIR and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project. For more information and up to date requirements, contractors are recommended to periodically review the DIR's website at www.dir.ca.gov. Contractor shall be solely responsible for ensuring compliance with Labor Code section 1725.5 as well as any requirements implemented by DIR applicable to its services or its subcontractors throughout the term of the Agreement and in no event shall contractor be granted increased payment from the District or any time extensions to complete the Project as a result of contractor's efforts to maintain compliance with the Labor Code or any requirements implemented by the DIR. Failure to comply with these requirements shall be deemed a material breach of this Agreement and grounds for termination for cause. The contractor and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the District or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. The District reserves the right to withhold contract payments if the District is notified, or

determines as the result of its own investigation, that contractor is in violation of any of the requirements set forth in Labor Code section 1720 et seq. at no penalty or cost to the District. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE).

26. No Telephone or Facsimile Availability. No telephone or facsimile machine will be available to bidders on the District premises at any time.

27. Obtaining Bidding Documents. Bidding Documents, may be obtained from: **Nevada County Contractors' Association** (www.nccabuildingpros.com), 149 Crown Point Circle #A, Grass Valley, CA 95945; the **Placer County Contractors Association** (www.placerbx.com), 10656 Industrial Ave #160, Roseville, CA 95678; and affiliates of the **Federation of California Builders Exchanges** (www.calbx.com) or ordered from **The Real Graphic Source** (at contractor's expense) by calling 530-273-8835.

Bidder shall utilize a complete set of Bidding Documents in preparing a bid. The failure or omission of bidder to receive any Bidding Document, form, instrument, Addendum, or other document shall not relieve bidder from any obligations with respect to the bid and/or Contract.

28. Addenda. Clarification or any other notice of a change in the Bidding Documents will be issued only by the District and only in the form of a written Addendum, transmitted by fax, e-mail, or available for pick up to all who are known by the issuing office to have received a complete set of Bidding Documents. Any other purported Addenda are void and unenforceable.

Bidder is responsible for ascertaining the disposition of all Addenda issued regardless of District notification and to acknowledge all Addenda in the submitted sealed bid prior to the bid opening. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for inspection. Each Addendum will be numbered, dated, and identified with the Project number. Oral statements or any instructions in any form, other than Addendum as described above, shall be void and unenforceable. Addenda issued by the District and not noted as being acknowledged by bidder as required in the Bid Form, may result in the bid being deemed non-responsive.

29. Debarment. Bidder may also be subject to debarment, in addition to seeking remedies for False Claims under Government Code section 12650 et seq. and Penal Code section 72, the District may debar a Contractor pursuant to Article 15 of the General Conditions if the Board, or the Board may designate a hearing officer who, in his or her discretion, finds the Contractor has done any of the following:

- a. Intentionally or with reckless disregard, violated any term of a contract with the District
- b. Committed an act or omission which reflects on the Contractor's quality, fitness or capacity to perform work for the District;
- c. Committed an act or offense which indicates a lack of business integrity or business honesty; or,
- d. Made or submitted a false claim against the District or any other public entity (See Government Code section 12650, et seq., and Penal Code section 72)

CHECKLIST OF MANDATORY BID FORMS

(For Contractor's use and reference only. Additional documents may be required so bidders should carefully review all Contract Documents and Bid Documents)

- Designation of Subcontractors
- Bid Form
- Contractor's Certificate Regarding Workers Compensation
- Non-Collusion Declaration
- Bid Bond (or Bid Guarantee form if Security is other than Bid Bond)
- Substitution Request Form (If Substitution Request Form is not submitted then NO Substitutions will be allowed after the bids are opened)
- Acknowledgment of Bidding Practices Regarding Indemnity
- DVBE Participation Statement
- Contractor's Certificate Regarding Drug-Free Work Place
- Contractor's Certificate Regarding Alcoholic Beverage and Tobacco-Free Campus Policy

PRE-BID CLARIFICATION FORM (For Contractor's Use)

PROJECT NAME:	Bear River High School Fully Automated Fire Alarm System		
PROJECT TRACKING NUMBER:	66357-28		
TO:	Andrew Pawlowski & Paul Palmer	EMAIL:	ajp@sitelinearch.com & ppalmer@njuhsd.com

DATE:			
FROM:		EMAIL:	
DOCUMENT/DIVISION NUMBER:		DRAWING NUMBER:	

REQUESTED CLARIFICATION:

RESPONSE TO CLARIFICATION:

Attach additional numbered sheets as necessary; however, only one (1) request shall be contained on each submitted form.

DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code section 4100 et seq.) and any amendments thereof, each Bidder shall set forth below: (a) the name, license number, and location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor, who will perform work or labor or work or improvement to be performed under this Contract, or a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvements according to detailed Drawings contained in the Plans and Specifications in an amount in excess of one-half of one percent of the Contractor's total bid; and (b) the portion and description of the work which will be done by each subcontractor under this Act. The Contractor shall list only one subcontractor for each such portion as is defined by the Contractor in this bid. All subcontractors shall be properly licensed by the California State Licensing Board.

If a Contractor fails to specify a subcontractor, or if a Contractor specifies more than one subcontractor for the same portion of work to be performed under the Contract in excess of one-half of one percent of the Contractor's total bid, the Contractor shall be deemed to have agreed that the Contractor is fully qualified to perform that portion, and that the Contractor alone shall perform that portion.

No Contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontractor to be voluntarily assigned or transferred or allow the relevant portion of the work to be performed by anyone other than the original subcontractor listed in the original bid, or (c) sublet or subcontract any portion of the work in excess of one-half of one percent of the Contractor's total bid where the original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act.

Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the Contractor's total bid where no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding, reduced to writing as a public record, of the authority awarding this Contract setting forth the facts constituting the emergency or necessity.

All subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with the California Department of Industrial Relations and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project.

NOTE: If alternate bids are called for and bidder intends to use different or additional subcontractors on the alternates, a separate list of subcontractors must be provided for each such Alternate.

Scope of Work	Name of Subcontractor	Location & Place of Business	License Type and Number	DIR Registration Number	<i>E-Mail & Telephone*</i>

* This information must be provided at the time of submission of bid or must be provided within 24 hours after the time set for the opening of bids. Bidders who choose to provide this information within 24 hours after the time set for the opening of bids are solely responsible to ensure the District receives this information in a timely manner. The District is not responsible for any problems or delays associated with emails, faxes, delivery, etc. Absent a verified fax or email receipt date and time by the District, the District's determination of whether the information was received timely shall govern and be determinative. Bidder shall not revise or amend any other information in this form submitted at the time of bid. The information submitted at the time of bid shall govern over any conflicts, discrepancies, ambiguities or other differences in any subsequent Subcontractor Designation Forms submitted by the bidder.

Proper Name of Bidder: _____
Date: _____
Name: _____
Signature of Bidder
Representative: _____
Address: _____
Phone: _____

BID FORM

FOR

BEAR RIVER HIGH SCHOOL FULLY AUTOMATED FIRE ALARM SYSTEM

BEAR RIVER HIGH SCHOOL

11130 Magnolia Road, Grass Valley, CA 95949

Project Tracking No. 66357-28

DSA Application No. 02-116222

FOR

NEVADA JOINT UNION HIGH SCHOOL DISTRICT

CONTRACTOR
NAME:

ADDRESS:

TELEPHONE:

()

FAX:

()

EMAIL

TO: Nevada Joint Union High School District, acting by and through its Governing Board, herein called "District".

1. Pursuant to and in compliance with your Notice Inviting Bids and other documents relating thereto, the undersigned bidder, having familiarized himself with the terms of the Contract, the local conditions affecting the performance of the Contract, the cost of the work at the place where the work is to be done, with the Drawings and Specifications, and other Contract Documents, hereby proposes and agrees to perform within the time stipulated, the Contract, including all of its component parts, and everything required to be performed, including its acceptance by the District, and to provide and furnish any and all labor, materials, tools, expendable equipment, and utility and transportation services necessary to perform the Contract and complete all of the Work in a workmanlike manner required in connection with the construction of:

Bear River High School Fully Automated Fire Alarm System

in the District described above, all in strict conformance with the drawings and other Contract Documents on file at the Planning and Construction Office of said District for amounts set forth herein.

2. BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDUM:

Number	Number	Number	Number	Number	Number	Number	Number
_____	_____	_____	_____	_____	_____	_____	_____

Acknowledge the inclusion of all addenda issued prior to bid in the blanks provided above. Your failure to do so may render your bid non-responsive.

3. TOTAL CASH PURCHASE PRICE IN WORDS & NUMBERS:

_____ DOLLARS

(\$ _____)

4. ALTERNATE BIDS: There are none for this project.

5. TIME FOR COMPLETION: The District may give a notice to proceed **within ninety (90) days** of the award of the bid by the District. Once the Contractor has received the notice to proceed, the Contractor shall complete the work in the time specified in the Agreement. By submitting this bid, Contractor has thoroughly studied this Project and agrees that the Contract Time for this Project is adequate for the timely and proper completion of the Project. Further, Contractor has included in the analysis of the time required for this Project, Rain Days, Governmental Delays, and the requisite time to complete Punch List.

In the event that the District desires to postpone giving the notice to proceed beyond this ninety (90) day period, it is expressly understood that with reasonable notice to the Contractor, giving the notice to proceed may be postponed by the District. It is further expressly understood by the Contractor, that the Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of giving the notice to proceed.

If the Contractor believes that a postponement will cause a hardship to it, the Contractor may terminate the contract with written notice to the District within ten (10) days after receipt by the Contractor of the District's notice of postponement. Should the Contractor terminate the Contract as a result of a notice of postponement, the District shall have the authority to award the Contract to the next lowest responsible bidder, if applicable.

It is understood that the District reserves the right to reject any or all bids and/or waive any irregularities or informalities in this bid or in the bid process. The Contractor understands that it may not withdraw this bid for a period of ninety (90) days after the date set for the opening of bids.

6. Attached is bid security in the amount of not less than ten percent (10%) of the bid:

Bid bond (10% of the Bid), certified check, or cashier's check (**circle one**)

7. The required List of Designated Subcontractors is attached hereto.

8. The required Non-Collusion Declaration is attached hereto.

9. The Substitution Request Form, if applicable, is attached hereto.

10. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned after the opening of the bid, and within the time this bid is required to remain open, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the District a Contract in the form attached hereto in accordance with the bid as accepted, and that he or she will also furnish and deliver to the District the Performance Bond and Payment Bond, all within five (5) calendar days after award of Contract, and that the work under the Contract shall be commenced by the undersigned bidder, if awarded the Contract, by the start date provided in the District's Notice to Proceed, and shall be completed by the Contractor in the time specified in the Contract Documents.

11. The names of all persons interested in the foregoing proposal as principals are as follows:

(IMPORTANT NOTICE: If bidder or other interested person is a corporation, state the legal name of such corporation, as well as the names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state the true names of the firm, as well as the names of all individual co-partners comprising the firm; if bidder or other interested person is an individual, state the first and last names in full.)

12. PROTEST PROCEDURES. If there is a bid protest, the grounds shall be submitted as set forth in the Instructions to Bidders.

13. The undersigned bidder shall be licensed and shall provide the following California Contractor's license information:

License Number: _____

License Expiration Date: _____

Name on License: _____

Class of License: _____

DIR Registration Number: _____

If the bidder is a joint venture, each member of the joint venture must include the above information.

14. Time is of the essence regarding this Contract, therefore, in the event the bidder to whom the Contract is awarded fails or refuses to post the required bonds and return executed copies of the Agreement form within five (5) calendar days from the date of receiving the Notice of Award, the District may declare the bidder's bid deposit or bond forfeited as damages.

15. The bidder declares that he/she has carefully examined the location of the proposed Project, that he/she has examined the Contract Documents, including the Plans, General Conditions, Supplemental Conditions, Addenda, and Specifications, all others documents and requirements that are attached to and/or contained in the Project Manual, all other documents issued to bidders and read the accompanying instructions to bidders, and hereby proposes and agrees, if this proposal is accepted, to furnish all materials and do all work required to complete the said work in accordance with the Contract Documents, in the time and manner therein prescribed for the unit cost and lump sum amounts set forth in this Bid Form.

16. DEBARMENT. In addition to seeking remedies for False Claims under Government Code section 12650 et seq. and Penal Code section 72, the District may debar a Contractor pursuant to Article 15 of the General Conditions if the Board, or the Board may designate a hearing officer who, in his or her discretion, finds the Contractor has done any of the following:

- a. Intentionally or with reckless disregard, violated any term of a contract with the District;
- b. Committed an act or omission which reflects on the Contractor's quality, fitness or capacity to perform work for the District;
- c. Committed an act or offense which indicates a lack of business integrity or business honesty; or
- d. Made or submitted a false claim against the District or any other public entity. (See Government Code section 12650, et seq., and Penal Code section 72)

17. DESIGNATION OF SUBCONTRACTORS. In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code section 4100 et seq.) and any amendments thereof, each bidder shall list subcontractors on the District's form Subcontractor list. This subcontractor list shall be submitted with the bid and is a required form

I agree to receive service of notices at the e-mail address listed below.

I the below-indicated bidder, declare under penalty of perjury that the information provided and representations made in this bid are true and correct.

Proper Name of Company

Name of Bidder Representative

Street Address

City, State, and Zip

()
Phone Number

()
Fax Number

E-Mail

By: _____ Date: _____
Signature of Bidder Representative

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of authorized officers or agents and the document shall bear 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; and if bidder is an individual, his signature shall be placed above.

All signatures must be made in permanent blue ink.

CONTRACTOR'S CERTIFICATE REGARDING WORKERS' COMPENSATION
FORM

Labor Code section 3700 in relevant part provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

1. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this State.
2. 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 employees.
3. For any county, city, city and county, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702.

I am aware of the provisions of Labor Code section 3700 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 provision before commencing the performance of the work of this Contract.

(Signature)

(Print)

(Date)

In accordance with Article 5 (commencing at section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and submitted with the Contractor's bid.

NON-COLLUSION DECLARATION

The undersigned declares:

I am the _____ [Title] of _____ [Name of Company], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [Date], at _____ [City], _____ [State].

Signed: _____

Typed Name: _____

BID GUARANTEE FORM

(Use only when not using a Bid Bond)

Accompanying this proposal is a cashier's check payable to the order of the Nevada Joint Union High School District or a certified check payable to the order of the Nevada Joint Union High School District in an amount equal to ten percent (10%) of the base bid and alternates (\$_____).

The proceeds of this check shall become the property of said District, if, this proposal shall be accepted by the District through the District's Governing Board, and the undersigned fails to execute a Contract with and furnish the sureties required by the District within the required time; otherwise, said check is to be returned to the undersigned.

Bidder

Note: Use this form, in lieu of Bid Bond form, when a cashier's check or certified check is accompanying the bid

BID BOND FORM

KNOW ALL MEN BY THESE PRESENT that we, the undersigned, (hereafter called "Principal"), and _____ (hereafter called "Surety"), are hereby held and firmly bound unto the Nevada Joint Union High School District (hereafter called "District") in the sum of _____ (\$_____) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

SIGNED this _____ day of _____, 20__.

The condition of the above obligation is such that whereas the Principal has submitted to the District a certain Bid, attached hereto and hereby made a part hereof, to enter into a Contract in writing for the construction of **Bear River High School Fully Automated Fire Alarm System**.

NOW, THEREFORE,

- a. If said Bid is rejected, or
- b. If said Bid is accepted and the Principal executes and delivers a Contract or the attached Agreement form within five (5) calendar days after acceptance (properly completed in accordance with said Bid), and furnishes bonds for his faithful performance of said Contract and for payment of all persons performing labor or furnishing materials in connection therewith,

Then this obligation shall be void; otherwise, the same shall remain in force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the call for bids, or the work to be performed thereunder, or the specifications accompanying the same, shall in anyway affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of said Contract, or the call for bids, or the work, or to the specifications.

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all costs incurred by the District in such suit, including without limitation, attorneys' fees to be fixed by the court.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year first set forth above.

(Corporate Seal)

By _____
Principal's Signature

Typed or Printed Name

Principal's Title

(Corporate Seal)

By _____
Surety's Signature

Typed or Printed Name

Title

(Attached Attorney in Fact Certificate)

Surety's Name

Surety's Address

Surety's Phone Number

IMPORTANT:

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code section 105, and if the work or project is financed, in whole or in part, with federal, grant, or loan funds, it must also appear on the Treasury Department's most current list (Circular 570 as amended).

THIS IS A REQUIRED FORM.

Any claims under this bond may be addressed to:

(Name and Address of Surety)

(Name and Address of agent or representative for service of process in California if different from above)

(Telephone Number of Surety and agent or representative for service of process in California).

REQUEST FOR SUBSTITUTION AT TIME OF BID

Pursuant to Public Contract Code section 3400, bidder submits the following request to Substitute with the bid that is submitted. I understand that if the request to substitute is not an “or equal” or is not accepted by District and I answer “no” I will not provide the specified item, then I will be held non-responsive and my bid will be rejected. With this understanding, I hereby request Substitution of the following articles, devices, equipment, products, materials, fixtures, patented processes, forms, methods, or types of construction:

	Specification Section	Specified Item	Requested Substituted Item	Contractor Agrees to Provide Specified Item if request to Substitute is Denied ¹ (circle one)	District Decision (circle one)
1.				Yes No	Grant Deny
2.				Yes No	Grant Deny
3.				Yes No	Grant Deny
4.				Yes No	Grant Deny
5.				Yes No	Grant Deny
6.				Yes No	Grant Deny
7.				Yes No	Grant Deny
8.				Yes No	Grant Deny
9.				Yes No	Grant Deny
10.				Yes No	Grant Deny
11.				Yes No	Grant Deny
12.				Yes No	Grant Deny

This Request Form must be accompanied by evidence as to whether the proposed Substitution (1) is equal in quality, service, and ability to the Specified Item; (2) will entail no change in detail, construction, and scheduling of related work; (3) will be acceptable in consideration of the required

¹ Bidder must state whether bidder will provide the Specified Item in the event the Substitution request is evaluate and denied. If bidder states that bidder will not provide the Specified Item the denial of a request to Substitute shall result in the rejection of the bidder as non-responsive. However, if bidder states that bidder will provide the Specified Item in the event that bidder’s request for Substitution is denied, bidder shall execute the Agreement and provide the Specified Item(s). If bidder refuses to execute the Agreement due to the District’s decision to require the Specified Item(s) at no additional cost, bidder’s Bid Bond shall be forfeited.

design and artistic effect; (4) will provide no cost disadvantage to the District; (5) will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; (6) will require no change of the construction schedule or milestones for the Project; and, (7) Contractor agrees to pay for any DSA Fees or other Governmental Plan check costs associated with this Substitution Request. (See General Conditions Section 3.6)

The undersigned states that the following paragraphs are correct:

1. The proposed Substitution does not affect the dimensions shown on the Drawings.
2. The undersigned will pay for changes to the building design, including Architect, engineering, or other consultant design, detailing, DSA plan check or other governmental plan check costs, and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the Contract Time, or specified warranty requirements.
4. Maintenance and service parts will be available locally for the proposed substitution.
5. In order for the Architect to properly review the substitution request, within five (5) days following the opening of bids, the Contractor shall provide samples, test criteria, manufacturer information, and any other documents requested by Architect or Architect's engineers or consultants, including the submissions that would ordinarily be required under Article 3.7 for Shop Drawings along with a document which provides a side by side comparison of key characteristics and performance criteria (often known as a CSI side by side comparison chart).
6. If Substitution Request is accepted by the District, Contractor is still required to provide a Submittal for the substituted item pursuant to Article 3.7 and shall provide required Schedule information (including schedule fragments, if applicable) for the substituted item as required under Article 8.3.2.1. The approval of the Architect, Engineer, or District of the substitution request does not mean that the Contractor is relieved of Contractor's responsibilities for Submittals, Shop Drawings, and schedules under Article 3.7 and 8.3.2 if the Contractor is awarded the Project.

Name of Bidder: _____

By: _____

District: _____

By: _____

ACKNOWLEDGMENT OF BIDDING PRACTICES REGARDING INDEMNITY FORM

TO: Nevada Joint Union High School District

RE: Project Tracking Number _____

Construction Contract for _____

Please be advised that with respect to the above-referenced Project the undersigned Contractor on behalf of itself and all subcontractors hereby waives the benefits and protection of Labor Code section 3864, which provides:

“If an action as provided in this chapter is prosecuted by the employee, the employer, or both jointly against the third person results in judgment against such third person, the employer shall have no liability to reimburse or hold such third person harmless on such judgment or settlement in the absence of a written agreement to do so executed prior to the injury.”

This Agreement has been signed by an authorized representative of the contracting party and shall be binding upon its successors and assignees. The undersigned further agrees to promptly notify the District of any changes of ownership of the contracting party or any subcontractor while this Agreement is in force.

Contracting Party

Name of Agent/Title

DISABLED VETERAN BUSINESS ENTERPRISE (DVBE) PARTICIPATION
STATEMENT

Each bidder must complete this form in order to comply with the Nevada Joint Union High School District ("District") policy for participation of disabled veteran business enterprises (School District projects funded in whole or in part by the State of California pursuant to the Leroy F. Greene School Facilities Act of 1998. (Education Code §17070.10, *et seq.*)

Project Name: _____

Bid No.: _____

DSA No.: _____

The undersigned, on behalf of the Contractor named below, certifies that the Contractor has made reasonable efforts to secure participation by DVBE in the Contract to be awarded for the above-referenced Bid No., including participation by DVBE subcontractors and/or material suppliers. **Check only one of the following:**

- The Contractor was unable after reasonable efforts to secure DVBE participation in the Contract for the above-referenced Project/Bid No. However, the Contractor will use DVBE services if the opportunity arises at any time during construction of the Project. Upon completion of the Project, the Contractor will report to the District the total dollar amount of DVBE participation in any Contract awarded to Contractor, and in any change orders, for the above-referenced Project.

- The Contractor has secured DVBE participation in the Contract for the above referenced Project/Bid No., and anticipates that such DVBE participation will equal approximately _____ dollars (\$ _____), which represents approximately _____ percent (___%) of the total Contract for such Project. Upon completion of the Project, Contractor will report to the District the actual total dollar amount of DVBE participation in the Contract awarded to Contractor, and in any change orders, for such Project

Company: _____

Name: _____

Title: _____

Signature: _____

Date: _____

CONTRACTOR'S CERTIFICATE REGARDING DRUG-FREE WORKPLACE

This Drug-Free Workplace Certification form is required from all successful bidders pursuant to the requirements mandated by Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any State agency must certify that it will provide a drug-free workplace by performing certain specified acts. In addition, the Act provides that each contract or grant awarded by a State agency may be subject to suspension of payments or termination of the contract or grant, and the Contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

Pursuant to Government Code section 8355, every person or organization awarded a contract or grant from a State agency shall certify that it will provide a drug-free workplace by doing all of the following:

1. Publishing a statement, notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace, and specifying actions which will be taken against employees for violations of the prohibition.
2. Establishing a drug-free awareness program to inform employees about all of the following:
 - a. The dangers of drug abuse in the workplace;
 - b. The person's or organization's policy of maintaining a drug-free workplace;
 - c. The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - d. The penalties that may be imposed upon employees for drug abuse violations;
3. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by subdivision (a) and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will (a) publish a statement notifying employees concerning the prohibition of controlled substance at the workplace, (b) establish a drug-free awareness program, and (c) require each employee engaged in the performance of the contract be given a copy of the statement required by section 8355(a) and require such employee agree to abide by the terms of that statement.

I also understand that if the Nevada Joint Union High School District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of Section 8355, that the contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350 et seq.

I acknowledge that I am aware of the provisions of Government Code section 8350 et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

DATE: _____

CONTRACTOR

By: _____
Signature

**CONTRACTOR’S CERTIFICATE REGARDING ALCOHOLIC BEVERAGE AND
TOBACCO-FREE CAMPUS POLICY**

The Contractor agrees that it will abide by and implement the District’s Alcoholic Beverage and Tobacco-Free Campus Policy, which prohibits the use of alcoholic beverages and tobacco products, of any kind and at any time, in District-owned or leased buildings, on DISTRICT property and in DISTRICT vehicles. The Contractor shall procure signs stating “ALCOHOLIC BEVERAGE AND TOBACCO USE IS PROHIBITED” and shall ensure that these signs are prominently displayed in all entrances to school property at all times.

DATE: _____

CONTRACTOR

By: _____
Signature

End of Bid Documents to be Submitted with Bid

AGREEMENT FORM

THIS AGREEMENT, entered into this _____ day of _____, 20____ in the County of Nevada of the State of California, by and between the Nevada Joint Union High School District, hereinafter called the “District”, and _____, hereinafter called the “Contractor”.

WITNESSETH that the District and the Contractor for the consideration stated herein agree as follows:

ARTICLE 1 - SCOPE OF WORK: The Contractor shall furnish all labor, materials, equipment, tools, and utility and transportation services, and perform and complete all work required in connection with: **Removal of current site-wide fire alarm system, installation of approximately 9,910 linear feet of wiring and conduit, and installation of a new Class B Fully-Automated Fire Alarm System with 5 fire alarm control panels and associated components serving 11 buildings, including a library and performing arts center (“Project”)** in strict accordance with the Contract Documents enumerated in Article 7 below. The Contractor shall be liable to the District for any damages arising as a result of a failure to comply with that obligation, and the Contractor shall not be excused with respect to any failure to so comply by an act or omission of the Architect, Engineer, Inspector, Division of the State Architect (DSA), or representative of any of them, unless such act or omission actually prevents the Contractor from fully complying with the Contract Documents and the Contractor protests, in accordance with the Contract Documents, that the act or omission is preventing the Contractor from fully complying with the Contract Documents. Such protest shall not be effective unless reduced to writing and filed with the District office within seven (7) days of the date of occurrence of such act or omission preventing the Contractor from fully complying with the Contract Documents.

ARTICLE 2 - TIME OF COMPLETION: The District may give notice to proceed within ninety (90) days of the award of the bid by the District. Once the Contractor has received a notice to proceed, the Contractor shall reach Substantial Completion (See Article 1.1.46) of the Work no later than August 10, 2018 (Eighty Nine (89) Days). This shall be called Contract Time. (See Article 8.1.1). It is expressly understood that time is of the essence.

Contractor has thoroughly studied the Project and has satisfied itself that the time period for this Project was adequate for the timely and proper completion of the Project within each milestone and within the Contract time. Further, Contractor has included in the analysis of the time required for this Project, items set forth in General Conditions Article 8.3.2.1, Submittal Schedules, Rain Day Float, and Governmental Delay Float.

In the event that the District desires to postpone giving the notice to proceed beyond this ninety (90) day period, it is expressly understood that with reasonable notice to the Contractor, giving the notice to proceed may be postponed by the District. It is further expressly understood by the Contractor, that the Contractor shall not be entitled to any claim of additional compensation as a result of the District’s postponement of giving the notice to proceed.

If the Contractor believes that a postponement will cause hardship to it, the Contractor may terminate the Contract with written notice to the District within ten (10) days after receipt by the Contractor of the District’s notice of postponement. It is further understood by the Contractor that in the event that the Contractor terminates the Contract as a result of postponement by the District, the District

shall only be obligated to pay the Contractor for the work performed by the Contractor at the time of notification of postponement. Should the Contractor terminate the Contract as a result of a notice of postponement, the District shall have the authority to award the Contract to the next lowest responsible bidder.

ARTICLE 3 - LIQUIDATED DAMAGES: It being impracticable and infeasible to determine the amount of actual damage, it is agreed that the Contractor will pay the District the sum of **ONE THOUSAND DOLLARS (\$1,000.00)** per calendar day for each and every day of delay beyond the Contract Time set forth in Article 2 of this Agreement (inclusive of Milestones that are critical on the critical path or noted as critical to the District) as liquidated damages and not as a penalty or forfeiture. In the event Liquidated Damages are not paid, the Contractor further agrees that the District may deduct such amount thereof from any money due or that may become due the Contractor under the Contract (See Article 9.6 and 2.2 of the General Conditions).

ARTICLE 4 - CONTRACT PRICE: The District shall pay to the Contractor as full consideration for the faithful performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, the sum of _____ DOLLARS (\$ _____), said sum being the total amount stipulated in the Bid Contractor submitted. Payment shall be made as set forth in the General Conditions.

Should any Change Order result in an increase in the Contract Price, the cost of such Change Order shall be agreed to in advance by the Contractor and the District, subject to the monetary limitations set forth in Public Contract Code section 20118.4. In the event that the Contractor proceeds with a Change in work without an agreement between the District and Contractor regarding the cost of a Change Order, the Contractor waives any Claim of additional compensation for such additional work.

ARTICLE 5 - HOLD HARMLESS AGREEMENT: Contractor shall defend, indemnify and hold harmless District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors from all liabilities, claims, actions, liens, judgments, demands, damages, losses, costs or expenses of any kind arising from death, personal injury, property damage or other cause based or asserted upon any act, omission, or breach connected with or arising from the progress of Work or performance of service under this Agreement or the Contract Documents. As part of this indemnity, Contractor shall protect and defend, at its own expense, District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors from any legal action including attorney's fees or other proceeding based upon such act, omission, breach or as otherwise required by this Article.

Furthermore, Contractor agrees to and does hereby defend, indemnify and hold harmless District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors from every claim or demand made, and every liability, loss, damage, expense or attorney's fees of any nature whatsoever, which may be incurred by reason of:

(a) Liability for (1) death or bodily injury to persons; (2) damage or injury to, loss (including theft), or loss of use of, any property; (3) any failure or alleged failure to comply with any provision of law or the Contract Documents; or (4) any other loss, damage or expense, sustained by any person, firm or corporation or in connection with the Work called for in this Agreement or the Contract Documents, except for liability resulting from the sole or active negligence, or the willful misconduct of the District.

(b) Any bodily injury to or death of persons or damage to property caused by any act, omission or breach of Contractor or any person, firm or corporation employed by Contractor, either

directly or by independent contract, including all damages or injury to or death of persons, loss (including theft) or loss of use of any property, sustained by any person, firm or corporation, including the District, arising out of or in any way connected with Work covered by this Agreement or the Contract Documents, whether said injury or damage occurs either on or off District property, but not for any loss, injury, death or damages caused by the sole or active negligence or willful misconduct of the District.

(c) Any dispute between Contractor and Contractor's subcontractors/suppliers/Sureties, including, but not limited to, any failure or alleged failure of the Contractor (or any person hired or employed directly or indirectly by the Contractor) to pay any Subcontractor or Materialman of any tier or any other person employed in connection with the Work and/or filing of any stop notice or mechanic's lien claims.

(d) Any claims, allegations, penalties, assessments, or liabilities to the extent caused by the Contractor's failure or the failure of any Subcontractor of any tier, to fully comply with the DIR registration requirements under Labor Code section 1725.5 at all times during the performance of any Work on the Project and shall reimburse the District for any penalties assessed against the District arising from any failure by the Contractor or any Subcontractor of any tier from complying with Labor Code sections 1725.5 and 1771.1. Nothing in this paragraph, however, shall require the Contractor or any Subcontractor to be liable to the District or indemnify the District for any penalties caused by the District in accordance with Labor Code section 1773.3 (g).

Contractor, at its own expense, cost, and risk, shall defend any and all claims, actions, suits, or other proceedings that may be brought or instituted against the District, its officers, agents or employees, on account of or founded upon any cause, damage, or injury identified herein Article 5 and shall pay or satisfy any judgment that may be rendered against the District, its officers, agents or employees in any action, suit or other proceedings as a result thereof.

The Contractor's and Subcontractors' obligation to defend, indemnify and hold harmless the Owner, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors hereunder shall include, without limitation, any and all claims, damages, and costs for the following: (1) any damages or injury to or death of any person, and damage or injury to, loss (including theft), or loss of use of, any property; (2) breach of any warranty, express or implied; (3) failure of the Contractor or Subcontractors to comply with any applicable governmental law, rule, regulation, or other requirement; (4) products installed in or used in connection with the Work; and (5) any claims of violation of the Americans with Disabilities Act ("ADA").

ARTICLE 6 - PROVISIONS REQUIRED BY LAW: Each and every provision of law and clause required to be inserted in this Contract shall be deemed to be inserted herein, and this Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted or is not inserted correctly, then upon application of either party the Contract shall forthwith be physically amended to make such insertion or correction.

ARTICLE 7 - COMPONENT PARTS OF THE CONTRACT: The Contract entered into by this Agreement consists of the following Contract Documents, all of which are component parts of the Contract as if herein set out in full or attached hereto.

Notice Inviting Bids
Instructions to Bidders
Designation of Subcontractors
Non-Collusion Declaration

Bid Guarantee Form
Bid Bond
Bid Form
Contractor's Certificate Regarding Worker's Compensation
Acknowledgment of Bidding Practices Regarding Indemnity
DVBE Participation Statement and Close-Out Forms
Agreement Form
Payment Bond
Performance Bond
Guarantee
Escrow Agreement for Security Deposit In Lieu of Retention
Workers' Compensation/Employers Liability Endorsement
General Liability Endorsement
Automobile Liability Endorsement
Contractor's Certificate Regarding Drug-Free Workplace
Contractor's Certificate Regarding Alcohol and Tobacco
Contractor's Certificate Regarding Background Checks
General Conditions
Supplementary and Special Conditions
Specifications
All Addenda as Issued
Drawings/Plans
Substitution Request Form

Requirements, Reports and/or Documents in the Project Manual or Other Documents Issued to Bidders
All of the above named Contract Documents are intended to be complementary. Work required by one of the above named Contract Documents and not by others shall be done as if required by all.

ARTICLE 8 - PREVAILING WAGES: Wage rates for this Project shall be in accordance with the general prevailing rate of holiday and overtime work in the locality in which the work is to be performed for each craft, classification, or type of work needed to execute the Contract as determined by the Director of the Department of Industrial Relations. Copies of schedules of rates so determined by the Director of the Department of Industrial Relations are on file at the administrative office of the District and are also available from the Director of the Department of Industrial Relations. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE).

The following are hereby referenced and made a part of this Agreement and Contractor stipulates to the provisions contained therein.

1. Chapter 1 of Part 7 of Division 2 of the Labor Code (Section 1720 et seq.)
2. California Code of Regulations, Title 8, Chapter 8, Subchapters 3 through 6 (Section 16000 et seq.)

ARTICLE 9 - RECORD AUDIT: In accordance with Government Code section 8546.7 (and Davis Bacon, if applicable) and Article 13.11 of the General Conditions, records of both the District and the Contractor shall be subject to examination and audit for a period of five (5) years after a Final Retention Payment or the Recording of a Notice of Completion, whichever occurs first.

ARTICLE 10 - CONTRACTOR'S LICENSE: The Contractor must possess throughout the Project a Class C-10 Contractor's License, issued by the State of California, which must be current and in good standing.

IN WITNESS WHEREOF, this Agreement has been duly executed by the above named parties, on the day and year first above written.

NEVADA JOINT UNION HIGH SCHOOL CONTRACTOR:
DISTRICT

By: _____
Typed or Printed Name

By: _____
Superintendent Title

Dated: _____
Signature

Type or Printed Name

Title (Authorized Officers or Agents)

Signature

(CORPORATE SEAL)

PAYMENT BOND

(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the NEVADA JOINT UNION HIGH SCHOOL DISTRICT (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code section 9550;

NOW, THEREFORE, We, _____, the undersigned Contractor, as Principal; and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the NEVADA JOINT UNION HIGH SCHOOL DISTRICT and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code section 9100, or any person, company, or corporation entitled to make a claim on this bond, in the sum of _____ Dollars (\$ _____), such sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code section 9100; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys' fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code section 9550 et seq.

This bond shall inure to the benefit of any person named in Civil Code section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or relating to any scheme or work of improvement herein above

described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the Obligee and the Contractor or on the part of any obligee named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code section 9100, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF this instrument has been duly executed by the Principal and Surety above named, on the _____ day of _____, 20_____.

PRINCIPAL/CONTRACTOR:

By: _____

SURETY:

By: _____

Attorney-in-Fact

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:
(Name and Address of Surety)

(Name and Address of agent or representative for
service for service of process in California)

Telephone: _____

Telephone: _____

A notary public or other office 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)
) ss.
COUNTY OF)

On _____, before me, _____, personally appeared _____, who proved 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) as the Attorney-in-Fact of _____ (Surety) and acknowledged to me that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) 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.

Notary Public in and for said State

(SEAL)

Commission expires: _____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the NEVADA JOINT UNION HIGH SCHOOL DISTRICT (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for said Public Work dated _____, (hereinafter referred to as the "Contract"), which Contract is incorporated herein by this reference; and

WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, _____, the undersigned Contractor, as Principal, and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the NEVADA JOINT UNION HIGH SCHOOL DISTRICT in the sum of _____ Dollars (\$ _____), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded Contractor, his or her heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the Obligee, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the Obligee that is based upon estimates approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive

notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Oblige to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly take over and complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Oblige as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of Liquidated Damages; or, at Oblige's sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Oblige of the lowest responsible bidder, arrange for a contract between such bidder and the Oblige and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the "balance of the Contract Price" (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of Liquidated Damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the Oblige under the Contract and any modifications thereto, less the amount previously paid by the Oblige to the Principal, less any withholdings by the Oblige allowed under the Contract. Oblige shall not be required or obligated to accept a tender of a completion contractor from the Surety.

Surety expressly agrees that the Oblige may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by Oblige, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the Oblige and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

The Surety shall remain responsible and liable for all patent and latent defects that arise out of or relate to the Contractor's failure and/or inability to properly complete the Public Work as required by the Contract and the Contract Documents. The obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

Contractor and Surety agree that if the Oblige is required to engage the services of an attorney in connection with enforcement of the bond, Contractor and Surety shall pay Oblige's reasonable attorneys' fees incurred, with or without suit, in addition to the above sum.

In the event suit is brought upon this bond by the Oblige and judgment is recovered, the Surety shall pay all costs incurred by the Oblige in such suit, including reasonable attorneys' fees to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

PRINCIPAL/CONTRACTOR:

By: _____

SURETY:

By: _____

Attorney-in-Fact

The rate of premium on this bond is _____ per thousand.

The total amount of premium charged: \$ _____ (This must be filled in by a corporate surety).

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:
(Name and Address of Surety)

(Name and Address of agent or representative for
service for service of process in California)

Telephone: _____

Telephone: _____

A notary public or other office 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)
) ss.
COUNTY OF)

On _____, before me, _____, personally appeared _____, who proved 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) as the Attorney-in-Fact of _____ (Surety) and acknowledged to me that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) 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.

Notary Public in and for said State

(SEAL)

Commission expires: _____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

GUARANTEE

Guarantee for _____ . We hereby guarantee that the _____, which we have installed in _____ has been done in accordance with the Contract Documents, including without limitation, the drawings and specifications, and that the work as installed will fulfill the requirements included in the bid documents. The undersigned and its surety agrees to repair or replace any or all such work, together with any other adjacent work, which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of **Two (2) years** from the date of the Notice of Completion of the above-mentioned structure by the Nevada Joint Union High School District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event the undersigned or its surety fails to comply with the above-mentioned conditions within a reasonable period of time, as determined by the District, but not later than ten (10) days after being notified in writing by the District or within forty eight (48) hours in the case of an emergency or urgent matter, the undersigned and its surety authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned and its surety, who will pay the costs and charges therefor upon demand. The undersigned and its surety shall be jointly and severally liable for any costs arising from the District's enforcement of this Guarantee.

Countersigned

(Proper Name)

(Proper Name)

By: _____

By: _____

(Signature of Subcontractor or Contractor)

(Signature of General Contractor if for Subcontractor)

Representatives to be contacted for service:

Name: _____

Address: _____

Phone Number: _____

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between the Nevada Joint Union High School District, 11645 Ridge Road, Grass Valley, CA 95945, hereinafter called "Owner", and _____ whose address is _____, hereinafter called "Contractor", and _____ whose address is _____, hereinafter called "Escrow Agent".

For the consideration hereinafter set forth, the Owner, Contractor and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for Retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for _____ in the amount of _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the Retention earnings directly to the escrow agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as Retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of the Owner, and shall designate the Contractor as beneficial owner.
2. The Owner shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.
3. When the Owner makes payments of Retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. These expenses and payment terms shall be determined by the Owner, Contractor, and Escrow Agent.
5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.
7. The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days' written notice to the Escrow Agent from the Owner of the notice of default under

Article 2.2, Article 9.6 or Article 14, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

8. Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of fees and charges.

9. Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Owner:

Title

Name

Signature

Address

On behalf of Contractor:

Title

Name

Signature

Address

BRHS Fully Automated Fire Alarm System

Escrow Agreement for Security Deposits in Lieu of Retentions

Nevada Joint Union High School District

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On behalf of Agent:

Title

Name

Signature

Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date set forth above.

OWNER

CONTRACTOR

Title

Title

Name

Name

Signature

Signature

INSURANCE DOCUMENTS & ENDORSEMENTS

The following insurance endorsements and documents must be provided to the Nevada Joint Union High School District within five (5) calendar days after receipt of notification of award. If the apparent low bidder fails to provide the documents required below, the District may award the Contract to the next lowest responsible and responsive bidder or release all bidders, and the bidder's bid security will be forfeited. All insurance provided by the bidder shall fully comply with the requirements set forth in Article 11 of the General Conditions.

1. **General Liability Insurance:** Certificate of Insurance with all specific insurance coverages set forth in Article 11 of the General Conditions, proper Project description, designation of the District as the Certificate Holder, a statement that the insurance provided is primary to any insurance obtained by the District and minimum of 30 days' cancellation notice. Bidder shall also provide required additional insured endorsement(s) designating all parties required in Article 11 of the General Conditions. The additional insured endorsement shall be an ISO CG 20 10 (04/13), or an ISO CG 20 38 (04/13), or their equivalent as determined by the District in its sole discretion.

Incidents and claims are to be reported to the insurer at:

Attn: _____
(Title) (Department)

(Company)

(Street Address)

(City) (State) (Zip Code)

(_____) _____
(Telephone Number)

2. **Workers' Compensation/ Employer's Liability Insurance:** Certificate of Workers' Compensation Insurance meeting the coverages and requirements set forth in Article 11 of the General Conditions, minimum of 30 days' cancellation notice, proper Project description, waiver of subrogation and any applicable endorsements.

3. Automobile Liability Insurance: Certificate of Automobile Insurance meeting the coverages and requirements set forth in Article 11 of the General Conditions, minimum 30 days' cancellation notice, any applicable endorsements and a statement that the insurance provided is primary to any insurance obtained by the District.

Incidents and claims are to be reported to the insurer at:

Attn: _____
(Title) (Department)

(Company)

(Street Address)

(City) (State) (Zip Code)
(_____) _____
(Telephone Number)

DATE: _____

CONTRACTOR

By: _____

Signature

DISABLED VETERAN BUSINESS ENTERPRISE (DVBE) CONTRACTOR CLOSE-OUT STATEMENT

The Contractor shall complete this form, as a condition to Final Payment, for purposes of reporting participation by Disabled Veteran Business Enterprises (DVBE) in the Contract for the Project/Bid No. specified below.

Project Name: _____

Bid No.: _____

DSA No.: _____

Name	Address/Phone	Category of Work*	\$ Amount of Contract

* Categories of work include: (1) construction services (specify services that DVBE will provide); (2) architecture and engineering services; (3) procurement of materials, supplies and equipment; and (4) information technology.

The undersigned, on behalf of the Contractor, certifies that DVBE participation on the Contract for Bid No. _____ equaled _____ dollars (\$ _____), which represents approximately _____ percent (____%) of the total Contract price including change orders for the Project.

Company: _____

Name: _____

Title: _____

Signature: _____

Date: _____

CONTRACTOR CERTIFICATION REGARDING BACKGROUND CHECKS

(Modernization Projects)

_____ certifies that it has performed one of the following:
[Name of contractor/consultant]

- Pursuant to Education Code section 45125.1, Contractor has conducted criminal background checks, through the California Department of Justice, of all employees providing services to the _____ District, pursuant to the contract/purchase order dated _____, and that none have been convicted of serious or violent felonies, as specified in Penal Code sections 1192.7(c) and 667.5(c), respectively.

As further required by Education Code section 45125.1, attached hereto as Attachment "A" is a list of the names of the employees of the undersigned who may come in contact with pupils.

OR

- Pursuant to Education Code section 45125.2, Contractor will ensure the safety of pupils by one or more of the following methods:
 - 1. The installation of a physical barrier at the worksite to limit contact with pupils.
 - 2. Continual supervision and monitoring of all employees of the entity by an employee of the entity whom the Department of Justice has ascertained has not been convicted of a violent or serious felony.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Date _____, 20__

[Name of Contractor/Consultant]

By its: _____

ATTACHMENT A:

CONTRACTOR CERTIFICATION REGARDING BACKGROUND CHECKS

(INSERT NAMES OF EMPLOYEES WHO MAY COME IN CONTACT WITH PUPILS)

GENERAL CONDITIONS

ARTICLE 1 DEFINITIONS

1.1 BASIC DEFINITIONS

NOTE: The following shall not be construed as a comprehensive list of all definitions in the Contract Documents and there may be other definitions set forth in the Contract Documents. Additionally, any references to any DSA forms, documents or requirements shall be construed to incorporate any updates, supplements, or additions. The Contractor shall be required to meet the latest DSA requirements applicable to the Project.

1.1.1 Action of the Governing Board is a vote of a majority of the District's Governing Board.

1.1.2 Approval means written authorization through action of the Governing Board. The Governing board has delegated to the Director of Planning and Construction the authority to approve certain modifications, Change Orders or Immediate Change Directives (Subject to the limits of the Delegation of Authority provided by the Board). In no case shall the Director of Planning and Construction have authority to approve total Change Orders or Modifications to the Project exceeding 10% of the Contract Sum.

1.1.3 Architect means the architect, engineer, or other design professional engaged by the District to design and perform general observation of the work of construction and interpret the Drawings and Specifications for the Project. (See ARTICLE 4)

1.1.4 As-Builts are a set of Plans and Specifications maintained by the Contractor clearly showing all changes, revisions, substitutions, field changes, final locations, and other significant features of the Project. The As-Builts shall be maintained continuously throughout the Work for the Project and is both a prerequisite to the issuance of Payment Application and a requirement for Contract Close-Out. (See Article 3.17)

1.1.5 Beneficial Occupancy is the point in time when a building or buildings are fit for occupancy is fit for occupancy and its intended use. Basic requirements are the building is safe, at or near Substantial Completion, and all fire/ life safety items are approved and operational. The fact that a building is occupied does not mean that the building is ready for Beneficial Occupancy if there are elements that are unsafe or if fire/ life safety items are not approved and operational. Taking occupancy on a structure that is under a fire watch is not considered beneficial occupancy. Further, taking of Beneficial Occupancy is not a point in time when retention is due unless the entire school has obtained a Certificate of Substantial Completion that meets the definition of 1.1.46.

1.1.6 Claims. A Claim is a request for payment, supported by back-up documentation which includes, invoices time sheets, or other documents substantiating legitimacy or entitlement that is submitted during the Project or immediately following the Project made prior to the Final Retention Payment Application and prior to Final Completion of the Project. A "Claim" means a separate demand by the Contractor for (1) time extension, (2) 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 provided for or the claimant is not otherwise entitled to, or (3) and amount the payment of which is disputed by the District. (See Article 4.6)

GENERAL CONDITIONS

1.1.7 Change Order (CO). A CO is a written instrument prepared by the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, and the Architect, stating their agreement upon (1) A description of a change in the Work, (2) The amount of the adjustment in the Contract Sum, if any; and (3) The extent of the adjustment in the Contract Time, if any. (See Article 7.2)

1.1.8 Change Order Request (COR). A COR is a written request supported by backup documentation prepared by the Contractor requesting that the District and the Architect issue a CO based upon a proposed change, or a change that results in an adjustment in cost, time or both, or arising from an RFP, CCD or ICD. (See Article 7.6)

1.1.9 Close-Out means the process for Final Completion of the Project, but also includes the requirements for the DSA Certification that the Project is Complete (See DSA Certification Guide). (See Article 9.9)

1.1.10 Construction Change Document (CCD). A Construction Change Document is a DSA term that is utilized to address changes to the DSA approved Plans and Specifications. There are two types of Construction Change Documents. (1) DSA approved CCD Category A for work affecting structural, access or fire/ life safety of the Project which will require a DSA approval; and, (2) CCD Category B for work NOT affecting structural safety, access compliance or fire/ life safety that will not require a DSA approval (except to confirm that no approval is required). Both CCD Category A and Category B shall be set forth in DSA Form 140 and submitted to DSA as required. (See Article 7.3)

1.1.11 Complete/ Completion/ Final Completion means that all Work in the Contract Documents is finished, the requirements of the Contract Documents have been met, the Project has been Closed Out, and all Work has ceased on the Project. This may also be referred to as Final Completion. In most cases, the recording of a Notice of Completion shall represent Completion of the Project. Beneficial Occupancy does not mean the Work is Complete.

1.1.12 Completion Date is the date when all Work for the Project shall be Substantially Complete and is the date assigned at the end of the Contract Time for the Project. (See Article 1.1.46)

1.1.13 Construction Manager. The Construction Manager is a consultant to the District contracted to assist in Project planning, management and construction of the Project. If there is a Construction Manager, they may assist in various aspects of the Project including, but not limited to Monitoring the progress of the construction, reviewing and monitoring the schedule, progress of work, monitoring pay requests, facilitating communications, advising the District and its Board of Education on various aspects of the construction process, monitoring the RFI, COR, CCD, ICD, RFP, Claims, Disputes and other Project related processes.

1.1.14 Contract or Agreement when the terms are used in these General Conditions shall be references to the Contract Documents as defined herein.

1.1.15 Contract Documents (sometimes referred to as Construction Documents) consist of the Agreement between District and Contractor (hereinafter the Agreement or Contract), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to bid, instructions to bidders, notice to bidders, and the requirements contained in the Bid Documents, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is a written amendment to the Contract signed by parties, a Change Order, a Construction Change Document, or a written order for a minor change in the Work issued by the

GENERAL CONDITIONS

Architect. The Contract Documents collectively form the Contract. The Contract represents the entire and integrated Agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Architect and Contractor, between the District and any Subcontractor or Sub-subcontractor, or between any persons or entities other than the District and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

1.1.16 Contract Time is the time period specified in the Contract Documents in which the Project shall be completed. This is sometimes referred to a Contract Duration, or "time in which the Contractor has to complete the Project". (See Article 8.1.1)

1.1.17 Contractor, District, and Architect are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if they are of singular number and neuter gender. Any reference to "Owner" shall mean "District" or Nevada Joint Union High School District.

1.1.18 Cure is the act of remedying a material failure to perform under the terms of the Contract Documents during the time provided to correct Contractor's Default. Specific time periods are provided to Cure and Correct a Contractor Default under Article 14 and for a Partial Default under Article 2.2 as well as elsewhere in the Contract Documents.

1.1.19 Days mean calendar days unless otherwise specifically stated.

1.1.20 Default is a material breach of Contract. A Termination for Cause under Article 14 is a declaration of Default of the Contract and shall act as a demand upon the Surety to perform under the terms of the Performance Bond. Partial Defaults may also be tendered to the Surety at District's discretion. (See Article 2.2)

1.1.21 Dispute. A dispute is a disagreement on terms or conditions of the Project where the Contractor's opinion of the Project, Payment, Change Order or Request for Proposal differs from that of the District or Architect. A dispute only rises to the level of a claim once the dispute is assembled with back-up documentation and presented for evaluation. (See Article 4.6)

1.1.22 District Representative is the person designated by the District to represent the District during the Construction for the Project. This District Representative shall have the delegated authority as further defined in Article 1.1.2. This District Representative may be an employee of the District who may have the delegated authority as set forth in Article 1.1.3, and may also include Construction Managers. In some cases, the District and its Board may be assisted by a Construction Manager. When a Construction Manager is assisting the District, the Contractor, Architect, and Inspector shall have a primary contact with the District's Construction Manager who will advise the District.

1.1.23 Drawings/Plans are graphic and pictorial portions of the Contract Documents prepared for the Project and approved changes thereto, wherever located and whenever issued, showing the design, location, and scope of the Work, generally including Plans, elevations, sections, details, schedules, and diagrams as drawn or approved by the Architect. Sometimes Drawings will also be included in Addenda, Change Orders, and Specifications.

1.1.24 DSA is the Division of State Architect. DSA is the agency that provides design and construction oversight for K-12 Schools, Community Colleges, and State Funded Charter School Projects.

GENERAL CONDITIONS

DSA is the responsible agency for this Project and Contractor has submitted a bid for the Project since Contractor is familiar with Contractor's responsibilities under the DSA requirements more thoroughly set forth at Title 24 of the California Code of Regulations. Contractor agrees to abide by the jurisdiction of DSA and shall construct the Project to conform with the approved Plans, Specifications, Addenda, and Change Orders (inclusive of approved CCD's and ICD's issued by the District pending CCD approval). See DSA website.

1.1.25 Emergency shall be defined as a sudden, unexpected occurrence, involving a clear and imminent threat to the continuation of school classes, a critical path delay that will result in not being able to occupy the school when students arrive to use the facility, danger from the facility or from outside the facility, Act of God, or other action which requires immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services.

1.1.26 Float the total number of days an activity may be extended or delayed without delaying the Completion Date shown in the schedule. Float will fall into three categories: (1) Rain Days; (2) Governmental Delays; and, (3) Project Float. (See Article 8.1.4)

1.1.27 Immediate Change Directive. (ICD) is a written order prepared by the Architect and signed by the District and the Architect, directing a change in the Work where the Work must proceed immediately and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. (See Article 7.3)

1.1.28 Inspector of Record (IOR)/ Project Inspector (PI) is the individual retained by the District in accordance with Title 24 of the California Code of Regulations and who will be assigned to the Project

1.1.29 Notice of Non-Compliance (DSA Form 154) is a document issued by the Inspector if there is a deviation from the DSA approved Plans, Specifications, and Change Orders. (See Article 7.1.2)

1.1.30 Payment Application or Certificate of Payment is the Contractor's certified representation of the actual level of Work performed on the Project. Payment Applications are sometimes also called "Certificate of Payment", "Request for Payment", "Payment Application", or similar terms, and shall follow the Schedule of Values that are approved by the Architect, Inspector and District. (See Article 9.3)

1.1.31 Project is the complete construction of the Work performed in accordance with the Contract Documents.

1.1.32 Project Manual is the volume assembled for the Work which may include, without limitation, the bidding requirements, sample forms, Conditions of the Contract, and Specifications.

1.1.33 Provide shall include "provide complete in place," that is "furnish and install complete."

1.1.34 Punch List/ Punch Item/ Incomplete Punch Item is a list of minor repair items, prepared after the issuance of a Certificate of Substantial Completion, by the Inspector and Architect of Work required in order to complete the Contract Documents and ensure compliance with the DSA Approved Plans so the Project may be Closed Out. Issuance of the Retention Payment is dependent of the proper completion of the Punch List. (See Article 9.9)

GENERAL CONDITIONS

1.1.34.1 *Contractor's List of Punch Items* is a list of minor repair items the Contractor submits when the Contractor considers the Work Substantially Complete. Submission of this List of Incomplete Punch Items is the Contractor's representation that the Project is Substantially Complete. (See Article 9.9.1.1)

1.1.35 Request for Information (RFI) is a written request prepared by the Contractor requesting the Architect to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the Drawings or Specifications, or to address problems which have arisen under field conditions. (See Article 7.4)

1.1.36 Request for Proposal (RFP) is a written request prepared by the Architect (and/or CM) requesting the Contractor to submit to an estimate of the effect of a proposed change on the Contract Price and (if applicable) the Contract Time. (See Article 7.5)

1.1.37 Safety Orders are those issued by any city, county, state or federal agency having jurisdiction over the Project.

1.1.38 Schedule is the Contractor's view of the practical way in which the Work will be accomplished. In this Agreement there is a requirement for a Baseline Schedule and regular Schedule Updates that show all Work to be completed during the Contract Time and shall include all items listed under Article 8.3.2.9. See Article 8 of the General Conditions.

1.1.39 Schedule of Values is a detailed breakdown of the Contract Price for each Project, building, Phase of Work or Site as determined by the District. This Schedule of Values shall adequately detail the price for the Work so Progress Payments Applications can be meaningfully reviewed by the Inspector, Architect of Record, Engineer of Record, and District. (See Article 9.2)

1.1.40 Separate Contracts are Contracts that the District may have with other Contractors, vendors, suppliers, or entities to perform Work on the Project. This may include, but is not limited to Multi-Prime Trade Contractors, furniture installers, testing agencies, clean-up contractors, or network or low voltage contractors. Contractor shall plan for certain other contractors that may also be working on the Project site and address these other contractors in Contractor's Schedule. (See Article 6)

1.1.41 Site refers to the grounds of the Project as defined in the Contract Documents and such adjacent lands as may be directly affected by the performance of the Work.

1.1.42 Specifications are that portion of the Contract Documents consisting of the written requirements for material, equipment, construction systems, instructions, quality assurance standards, workmanship, and performance of related services.

1.1.43 Standards, Rules, and Regulations referred to are recognized printed standards and shall be considered as one and a part of these Specifications within limits specified. Federal, state and local regulations are incorporated into the Contract Documents by reference.

1.1.44 Stop Work Order, or an Order to Comply, is issued when either (1) the Work proceeds without DSA approval; (2) the Work proceeds without a DSA Inspector of Record, or (3) where DSA determines that the Work is not being performed in accordance with applicable rules and regulations, and would compromise the structural integrity of the Project or would endanger lives. If a Stop Work Order is issued, the Work in the affected area shall cease until DSA withdraws the Stop Work Order. Pursuant

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to Education Code section 17307.5(b), the District shall not be held liable in any action filed against the District for any delays caused by compliance with the Stop Work Order

1.1.45 Subcontractor, as used herein, includes those having direct or indirect contracts with Contractor and ones who furnished labor, material or services for a special design according to Plans, Drawings, and Specifications of this Work.

1.1.46 Substantial Completion/ Substantially Complete(d) is not reached unless and until each of the following four (4) conditions have been met: (1) all contractually required items have been installed with the exception of only minor and Incomplete Punch List Items (See Article 9.9.1.2); (2) All Fire/Life Safety Systems have been installed, and are working and signed off on the DSA Form 152 Inspection Card, and all building systems including mechanical, electrical and plumbing are all functioning; (3) all other items DSA Form 152 Inspection Card for the Project have been approved and signed off; and (4) the Project is fit for occupancy and its intended use. For the purposes of this Contract, any references to Completion Date means Substantial Completion Date.

1.1.47 Substitution is a change in product, material, equipment, or method of construction from those required by the Construction Documents proposed by the Contractor. For this Project, a Substitution is subject to the filing of a Construction Substitution Request Form at the time of bid and meeting the requirements of Article 3.10.

1.1.48 Supplementary Conditions/ Supplementary General Conditions/ Special Conditions are terms that are sometimes used interchangeably and refer to any additional requirements or changes to the General Conditions as noted.

1.1.49 Surety is the person, firm, or corporation that executes as a bid bond, Payment Bond or Performance Bond guarantor on the Contractor's Bid, Contractor's Performance on the Contract and Payment of the Contractor's Subcontractors, material suppliers, vendors and labor on the Project. The Surety is bound to the same extent as the Contractor is bound once a Default occurs. A default includes a Termination for Substantial Failure to Perform under Article 14, but also includes any breach of Contract and is subject to the requirements and responsibilities as set forth in the Performance Bond.

1.1.50 Work shall include all labor, materials, services and equipment necessary for the Contractor to fulfill all of its obligations pursuant to the Contract Documents. It shall include the initial obligation of any Contractor or Subcontractor who performs any portion of the Work, to visit the Site of the proposed Work (a continuing obligation after the commencement of the Work), to fully acquaint and familiarize itself with the conditions as they exist and the character of the operations to be carried out under the Contract Documents, and make such investigation as it may see fit so that it shall fully understand the facilities, physical conditions, and restrictions attending the Work under the Contract Documents. Each such Contractor and its Subcontractors shall also thoroughly examine and become familiar with the Drawings, Specifications, and associated Contract Documents and bid documents before preparing and submitting any bid.

1.1.51 Workers include laborers, workers, and mechanics.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 Correlation and Intent

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1.2.1.1 *Documents Complementary and Inclusive.* The Contract Documents are complementary and are intended to include all items required for the proper execution and completion of the Work. All Contract Documents form the Contractor's Contract with the District. Any item of Work mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be provided by Contractor as if shown or mentioned in both. The Contractor is bound to provide the Work complete and is under a legal duty to carefully study Plans and schedule operations well ahead of time and identify inconsistencies with the Plans and Specifications and call such inconsistencies to the attention of the Architect or Registered Engineer through the Inspector under Section 4-343(b) of Title 24.

1.2.1.2 *Work to be Complete.* Contractor has thoroughly studied the Contract Documents and understands that the District contracted with Contractor to provide a complete Project which means complete systems and buildings. The entire set of Contract Documents shows a complete Project and Contractor agrees that there are multiple disciplines putting together a set of Contract Documents. Thus, if portions of a system are shown on some Drawings and not others, this does not mean the Contractor is to only provide part of a system. For example, if an air conditioning unit is shown on the mechanical Drawings, the plumbing for the air conditioning is shown on another Drawing, and the electrical shown on the electrical Drawings, the Contractor is to provide a complete and working air conditioning system. The only time when an item is supplied incomplete is if the system is shown specifically as incomplete since others will be completing the system. Work includes, but is not limited to materials, workmanship, and manufacture of fabrication of components for the Project.

1.2.1.3 *Coverage of the Drawings and Specifications.* The Drawings and Specifications generally describe the Work to be performed by Contractor. Generally, the Specifications describe Work which cannot be readily indicated on the Drawings and indicate types, qualities, and methods of installation of the various materials and equipment required for the Work. It is not intended to mention every item of Work in the Specifications, which can be adequately shown on the Drawings, or to show on the Drawings all items of Work described or required by the Specifications even if they are of such nature that they could have been shown. All materials or labor for Work, which is shown on either the Drawings or the Specifications (or is reasonably inferable therefrom as being necessary to complete the Work), shall be provided by the Contractor. The Contractor is responsible for the whole Project as contractually set forth as the Contract Documents. It is intended that the Work be of sound, quality construction, and the Contractor shall be responsible for the inclusion of adequate amounts to cover installation of all items indicated, described, or implied in the portion of the Work to be performed by them.

1.2.1.4 *Conflicts.* In the event there is a discrepancy between the various Contract Documents, it is intended that the more stringent, higher quality, and greater quantity of Work shall apply.

1.2.1.5 *Conformance with Laws.* Each and every provision of law required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein, even if through mistake or otherwise any such provision is not inserted, or is not correctly inserted.

Before commencing any portion of the Work, Contractor shall check and review the Drawings and Specifications for such portion for conformance and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public and municipal utilities affecting the construction and operation of the physical plant of the Project, all quasi-governmental and other regulations affecting the construction and operation of the physical plant of the Project, and other

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special requirements, if any, designated in the Contract Documents. Such checking shall include review of Title 24 of the California Code of Regulations, California Building Code, local utility, local water connection, local grading and all other applicable agencies. In the event Contractor observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with the Contract Documents, Contractor shall, within five (5) days, notify the Inspector, Architect and District in writing of same and shall ensure that any such violation or inconsistency shall be corrected in the manner provided hereunder prior to the construction of that portion of the Project. (See Title 24 Section 4-343)

The Contractor shall bear all expenses of correcting Work done contrary to said laws, ordinances, rules, and regulations if the Contractor performed same (1) without first consulting the Architect for further instructions regarding said Work or (2) disregarded the Architect's instructions regarding said Work.

1.2.1.6 *Ambiguity and Inconsistency.* Before commencing any portion of the Work, Contractor shall carefully examine all Drawings and Specifications and other information given to Contractor as to materials and methods of construction and other Project requirements. Prior to commencing any portion of the Work, Contractor shall notify Architect and District in writing of any perceived or alleged error, inconsistency, conflict, ambiguity, or lack of detail or explanation in the Drawings and Specifications in the manner provided herein. If the Contractor or its Subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any Work under the Contract Documents, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof without increase or adjustment to the Contract Price or the time for performance. Contractor shall maintain an adequate inspection system and perform personal observations and review work and pre-plan the project to ensure the Work performed under the Contract conforms to Contract requirements. Contractor shall maintain records of such review and observation to ensure strict compliance with the terms of the Contract.

1.2.1.7 *Typical Parts and Sections.* Whenever typical parts or sections of the Work are completely detailed on the Drawings, and other parts or sections which are of the same construction are shown in outline only, the complete or more detailed shall apply to the Work which is shown in outline.

1.2.1.8 *Dimensions.* Dimensions of Work shall not be determined by scale or rule. Figured dimensions shall be followed at all times. If figured dimensions are lacking on Drawings, Architect shall supply them on request. The Architect's decisions on matters relating to aesthetic effect will be final.

1.2.2 Addenda and Deferred Approvals

1.2.2.1 *Addenda* are the changes in Specifications, Drawings, Contract Documents, and Plans which have been authorized in writing by the District or Architect, and which alter, explain, or clarify the Contract Documents. Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda unless otherwise specified in the addenda.

1.2.2.2 *Deferred Approvals.* Deferred Approvals are Submittals that are reviewed by the Architect (or Engineer of Record) and submitted to DSA for approval based on thorough detailing of manufacturer and Project specific design. See Article 3.9.1 and 3.9.3. The Deferred Approval item cannot be fully detailed on the originally approved Drawings or Specifications because of variations in

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product design and manufacture. Contract Documents which require Deferred Approval items are meant to be for illustration purposes only. Approval of Plans for such a portion of the Work may be deferred until the material suppliers and Subcontractors are selected. All Deferred Approvals are noted in the Plans and Specifications. Contractor is responsible for all Deferred Approval requirements set forth in the Contract Documents. Contractor is responsible to comply with all laws, building codes, Title 24 and regulations necessary to obtain all necessary approvals, including those required from the Division of the State Architect (“DSA”) and the State Fire Marshall. Contractor shall not be granted an extension of time for failure to plan, schedule for and obtain necessary approvals. Contractor shall Schedule all Deferred Approval items in the Baseline Schedule and Schedule Updates under Article 3.9.6

1.2.3 Specification Interpretation

1.2.3.1 *Titles.* The Specifications are separated into titled sections for convenience only and not to dictate or determine the trade or craft involved.

1.2.3.2 *As Shown, Etc.* Where “as shown,” “as indicated,” “as detailed,” or words of similar import are used, reference is made to the Drawings accompanying the Specifications unless otherwise stated. Where “as directed,” “as required,” “as permitted,” “as authorized,” “as accepted,” “as selected,” or words of similar import are used, the direction, requirement, permission, authorization, approval, acceptance, or selection by Architect is intended unless otherwise stated.

1.2.3.3 *General Conditions.* The General Conditions and Supplementary General Conditions are a part of the Contract Documents which further defines and refines the Contract entered between the Contractor and District.

1.2.3.4 *Abbreviations.* In the interest of brevity, the Specifications are written in an abbreviated form and may not include complete sentences. Omission of words or phrases such as “Contractor shall,” “shall be,” etc., are intentional. Nevertheless, the requirements of the Specifications are mandatory. Omitted words or phrases shall be supplied by inference in the same manner as they are when a “note” occurs on the Drawings. In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.2.3.5 *Plural.* Words in the singular shall include the plural whenever applicable or the context so indicates.

1.2.3.6 *Metric.* The Specifications may indicate metric units of measurement as a supplement to U.S. customary units. When indicated thus: 1” (25 mm), the U. S. customary unit is specific, and the metric unit is nonspecific. When not shown with parentheses, the unit is specific. The metric units correspond to the “International System of Units” (SI) and generally follow ASTM E 380, “Standard for Metric Practice.”

1.2.3.7 *Standard Specifications.* Any reference to standard specifications of any society, institute, association, or governmental authority is a reference to the organization’s standard specifications, which are in effect at the date of the Contractor’s proposal unless directed otherwise. If applicable specifications are revised prior to completion of any part of the Work, the Contractor may, if acceptable to Architect, perform such Work in accordance with the revised specifications. The standard specifications, except as modified in the Specifications for the Project, shall have full force and effect as

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though printed in the Specifications. Architect will furnish, upon request, information as to how copies of the standard specifications referred to may be obtained.

1.2.4 Rules of Document Interpretation

1.2.4.1 In the event of conflict within the Drawings, the following rules shall apply:

- a. General Notes, when identified as such, shall be incorporated into other portions of Drawings.
- b. Schedules, when identified as such, are complementary with other notes and other portions of Drawings including those identified as General Notes.
- c. Larger scale Drawings shall take precedence over smaller scale Drawings.
- d. At no time shall the Contractor base construction on scaled Drawings.

1.2.4.2 Specifications shall govern as to materials, workmanship, and installation procedures.

1.2.4.3 If Contractor observes that Drawings and Specifications are in conflict, Contractor shall, prior to commencing work, notify the Architect in writing for the purposes of obtaining an interpretation of the Contract Documents.

1.2.4.4 In the case of conflict or inconsistencies, the order of precedence shall be as follows:

- a. General Conditions take precedence over Drawings and Specifications.
- b. Supplemental Conditions take precedence over General Conditions.
- c. The Agreement Form shall take precedence over the Supplemental Conditions.
- d. In the case of disagreement or conflict between or within Specifications, and Drawings, the more stringent, higher quality, and greater quantity of Work shall apply.
- e. Addenda shall take precedence over Drawings and Specifications.
- f. General Conditions shall take precedence over Addenda.
- g. Drawings and Specifications take precedence over the Soils Report.

1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

The Drawings, Specifications, and other Contract Documents for the Project are the property of the District and/or Architect pursuant Contract requirements between the District and Architect. The

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Contractor may retain one Contract record set. Neither the Contractor nor any Subcontractor, or material or equipment supplier shall own or claim a Copyright in the Drawings, Specifications, and other documents prepared by the Architect. All copies except the Contractor's record set, shall be returned or properly accounted for upon completion of the Work. The Drawings, Specifications, and other documents prepared by the Architect, and copies thereof furnished to the Contractor are not to be used by the Contractor or any Subcontractor, Sub-subcontractor, or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work. The District and/or Architect hereby grants the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings, Specifications, and other documents prepared for the Project in the execution of their Work under the Contract Documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the District's property interest or other reserved right.

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ARTICLE 2 DISTRICT

2.1 INFORMATION AND SERVICES REQUIRED OF THE DISTRICT

2.1.1 Site Survey

The District will furnish, at its expense, a legal description of the Site and a land survey showing the boundaries of the Site. Contractor shall be responsible for all surveys regarding location of construction, grading and site work.

2.1.2 Soils

When required by the scope of the Project, the District will furnish, at its expense, the services of geotechnical engineers or consultants when reasonably required and deemed necessary by the Architect or as required by local or state codes. Such services, with written reports and appropriate written professional recommendations, may include test boring, test pits, soil bearing values, percolation tests, air and water pollution tests, and ground corrosion and resistivity tests, including necessary operations for determining subsoil, air, and water conditions.

2.1.3 Soils Report Part of the Contract Documents: Contractor Reliance

A soils investigation report has been obtained from test holes at the Site, and such report is incorporated into this Contract and made available for the Contractor's use in preparing its bid and Work under this Contract. Where the Plans and Specifications are more specific and provide more significant structure, systems, reinforcing, thicknesses, or construction methods, the Drawings shall control over the soils report. The soils report is available at the Architect's office for review and it is Contractor's responsibility to ensure that Contractor has reviewed the soils investigation report. Any information obtained from such report or any other information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only. If, during the course of Work under this Contract, Contractor encounters subsurface conditions which differ materially from those indicated in the soils report, then Contractor shall notify the District within five (5) calendar days of discovery of the condition, and changes to the Contract Price may be made in accordance with Article 7 entitled "Changes in the Work." Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages in the event the Contractor fails to notify District within the five-day period mentioned above.

WARNING: DISTRICT DOES NOT WARRANT THE SOILS AT THE PROJECT SITE. CONTRACTOR HAS REVIEWED AND IS FAMILIAR WITH THE REQUIREMENTS OF THE SOILS INVESTIGATION REPORT. CONTRACTOR UNDERSTANDS THAT PLANS, DRAWINGS AND SPECIFICATIONS SUPERSEDE THE SOILS REPORT IF THERE ARE CONFLICTS. FURTHER, IN ADDITION TO THE INFORMATION IN THE SOILS REPORT, CONTRACTOR HAS CONDUCTED AN INDEPENDENT INVESTIGATION OF THE PROJECT SITE AND THE SOILS CONDITIONS OF THE SITE. DISTRICT DOES NOT WARRANT THE SOILS CONDITIONS OF THE SITE AND CONTRACTOR IS FULLY RESPONSIBLE TO ASCERTAIN SITE CONDITIONS FOR THE PURPOSES OF DETERMINING

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CONSTRUCTION MEANS AND METHODS PRIOR TO COMMENCING CONSTRUCTION.

2.1.4 Utilities

2.1.4.1 *Location of Point of Connection.* The locations shown for the point of connection are approximate. It shall be the responsibility of the Contractor to determine the exact location of all service connections.

2.1.4.2 *Regional Notification Center.* Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) business days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. See Government Code section 4216.3. No excavation shall be commenced and carried out by the Contractor unless such an inquiry identification number has been assigned to the Contractor or any Subcontractor of the Contractor and the District has been given the identification number by the Contractor. Any damages arising from failure to make appropriate regional notification shall be at the sole risk of Contractor. Contractor shall solely be responsible for any fines, penalties or damages for violation of this Article and Government Code section 4216.6 or 4216.7. Any delays caused by failure to make appropriate regional notification shall be at the sole risk of Contractor and shall not be considered for extension of time pursuant to Article 8.4.

2.1.4.3 *Utilities - Removal and Restoration.* The District has endeavored to determine the existence of utilities at the Site of the Work from the records of the District of known utilities in the vicinity of the Work. The positions of these utilities as derived from such records are shown in the Contract Documents. Thus, the locations of the main or trunklines located on the Drawings are approximate locations and not exact.

No excavations were made to verify the locations shown for underground utilities. Other than the main or trunkline, which the District has endeavored to locate on the Plans, service connections or laterals to these utilities may not be shown on the Plans. It shall be the responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing work which could result in damage to such utilities. The Contractor shall immediately notify the District's representative as to any utility main or trunkline discovered by Contractor in a different position than provided by the Regional Notification Center. With respect to main or trunklines, Contractor is to immediately notify District if the location is substantially different than as shown in the Contract Documents.

Contractor shall coordinate its Work with all utilities, including, but not limited to electricity, water, gas and telephone and meet with said utilities prior to the start of any work. Contractor shall show timing of all utility coordination activities under the Scheduling requirements of Article 8.

2.1.4.4 *Other Utilities.* In case it should be necessary to remove, relocate, or temporarily maintain a utility because of interference with the Work, the work on the utility shall be performed and paid for as follows:

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When it is necessary to remove, relocate or temporarily maintain a service connection, the cost of which is not required to be borne by the owner of the service connection, the Contractor shall bear all expenses incidental to the work on the service connection. The work on the service connection shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the service connection has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is in the position shown on the Plans, the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the utility. The work on the utility shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the utility has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is not shown on the Plans or is in a position different from that shown on the Plans and were it in the position shown on the Plans would not need to be removed, relocated, or temporarily maintained, and the cost of which is not required to be borne by the owner thereof, the District will make arrangements with the owner of the utility for such work to be done at no cost to the Contractor, or will require the Contractor to do such work in accordance with Article 7 or will make changes in the alignment and grade of the Work to obviate the necessity to remove, relocate, or temporarily maintain the utility. Changes in alignment and grade will be ordered in accordance with Article 7 herein.

No representations are made that the obligations to move or temporarily maintain any utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether said cost is required to be borne by the owner of the utility.

The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work and for the purpose of maintaining and making repairs to their property.

2.1.5 Existing Utility Lines; Removal, Relocation

2.1.5.1 *Main or Trunkline Facilities.* If the Contractor while performing the Contract discovers utility facilities not identified in the Contract Documents, Contractor shall notify the District and utility in writing prior to commencing work.

The owner of the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

The Contractor shall exercise reasonable care and shall be compensated by the District for the actual verified field costs of locating, and removing, relocating, protecting or temporarily maintaining such main or trunkline utility facilities located in a substantially different location than in the Plans and Specifications, and for equipment in use on the project necessarily idled during such work. This Work shall be performed in accordance with Article 7 of these General Conditions.

2.1.5.2 *Assessment.* Nothing in these subparagraphs shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, or

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meter junction boxes on or adjacent to the Site and could be inferred from the Main or Trunkline shown on the Drawings.

2.1.5.3 *Notification.* If the Contractor, while performing Work under this Contract, discovers utility facilities not identified by the District in the Contract Documents. Contractor shall, within five (5) days, notify the District and the utility in writing. If Contractor fails to notify the District within forty eight hours after discovery of any utility facilities not identified by District in the Contract Documents, Contractor waives all rights to be compensated for any extra Work or damages resulting from such discovered utilities.

2.1.6 Easements

District shall secure and pay for easements for permanent structures or permanent changes in existing facilities, if any, unless otherwise specified in the Contract Documents.

2.2 DISTRICT'S RIGHT TO CARRY OUT THE WORK DUE TO PARTIAL DEFAULT IN A SPECIFIC SEGREGATED AREA OF WORK (48 HOUR NOTICE TO CURE AND CORRECT)

If the Contractor Defaults or neglects to carry out the Work in accordance with the Contract Documents, the District may provide forty-eight (48) hour written notice to cure (a shorter period of time in the case of Emergency or a critical path delay as defined in Article 2.2.1) Contractor's Partial Default in a specific segregated area of work. The District's right to issue a Partial Default of the Contractor's Work and take over that segregated area of Work includes, but is not limited to:

1. Failure to supply adequate workers on the entire Project or any part thereof;
2. Failure to supply a sufficient quantity of materials;
3. Failure to perform any provision of this Contract;
4. Failure to comply with safety requirements, or due to Contractor is creation of an unsafe condition;
5. Cases of bona fide emergency;
6. Failure to order materials in a timely manner;
7. Failure to prepare Deferred Approval items or Shop Drawings in a timely manner;
8. Failure to comply with Contractor's Baseline or Update Schedule, meet critical Milestones which would result in a delay to the critical path, or delay the Contract Time;
9. Failure to comply with the Subletting and Subcontracting Fair Practices, Public Contract Code section 4100, et seq.
10. Failure to meet the requirements of the Americans with Disabilities Act;
11. Failure to complete Punch List work;

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12. Failure to proceed on an Immediate Change Directive
13. Failure to correct a Notice of Deviation

If during the forty eight (48) hour period, the Contractor fails to Cure and correct the deficiency noted in the 48 hour notice of Partial Default with diligence and promptness, the District may correct such deficiencies without prejudice to other remedies the District may have, including a Termination for Cause as set forth in Article 14. If there are inadequate funds remaining the Project balance or in the Retention Escrow to address at least 150% of the costs set forth in the Article 2.2 notice, the District may copy the Surety on the written notice of Partial Default. If a notice to the Surety is provided, except in the cases of emergency or critical path delay, the Surety has the option to take over and complete the Work described in the written notice if Surety personally delivers notice to District that it intends to perform such work. In the case where written notice has been provided, the District shall allow Surety seven (7) days to perform the Work.

2.2.1 Service of Notice of Partial Default with Right to Cure

A written notice of Partial Default and right to cure under Article 2.2 (“Article 2.2 Notice” or “Notice of Partial Default”) shall be served by e-mail (with a copy provided by regular mail) to the e-mail address provided on the Bid submitted and copied to the Project Superintendent.

2.2.2 Shortened Time for Partial Default in the Case of Emergencies.

In an Emergency situation, the District may correct any of the deficiencies described in Article 2.2 without prejudice to other remedies by providing service of written notice of Emergency requiring a shortened time for Partial Default specifying the time given to cure, if any.

2.2.3 Shortened Time for Partial Default in the Case of Critical Path Delay

In the case of critical path delay, the District may correct any of the deficiencies described in Article 2.2 without prejudice to other remedies providing service of written notice of critical path delay to the Contractor with a specific description of the critical path delay items noting the line item or area of Work that is on the critical path and prescribe the length of shortened time to cure, if any.

2.2.4 Written Notice of Partial Default to be Deducted by Deductive Change Order

The District shall have the right to determine the reasonable value of the Article 2.2 Partial Default Work, or if there is an actual value for the Work, shall use that value and issue a Deductive Change Orders under Article 7.7.4

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ARTICLE 3 THE CONTRACTOR

3.1 SUPERVISION AND CONSTRUCTION PROCEDURES

3.1.1 Contractor

The Contractor shall continually supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures; and shall coordinate all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. The Contractor shall not perform the Work without utilizing the Contract Documents or, where required, approved Submittals, Shop Drawings, or samples for any such portion of the Work. If any of the Work is performed by contractors retained directly by the District, Contractor shall be responsible for the coordination and sequencing of the work of those other contractors so as to avoid any impact on the Project Schedule pursuant to the requirements of Article 6 and Article 8. Specific duties of the Contractor shall include those set out in Section 43 of Title 21 of the California Code of Regulations and Section 4-343 of Title 24 of the California Code of Regulations. These duties include, but are not limited to the following:

3.1.1.1 *Responsibilities.* It is the duty of the Contractor to complete the Work covered by his or her Contract in accordance with the approved Plans and Specifications. The Contractor in no way is relieved of any responsibility by the activities of the Architect, Engineer, Inspector or DSA in the performance of their duties.

3.1.1.2 *Performance of the Work.* The Contractor shall carefully study the approved Plans and Specifications and shall plan its schedule of operations well ahead of time. If at any time it is discovered that work is being done which is not in accordance with the approved Plans and Specifications, the Contractor shall correct the Work immediately.

3.1.2 Contractor Responsibility to Study the Plans and Specifications

All inconsistencies or timing or sequences which appear to be in error in the Plans and Specifications shall promptly be called to the attention of the Architect or, Engineer, for interpretation or correction. Local conditions which may affect the structure shall be brought to the Architect's attention at once. In no case, shall the instruction of the Architect be construed to cause work to be done which is not in conformity with the approved Plans, Specifications, change orders, construction change documents, and as required by law. (See Title 24, Section 4-343)

3.1.3 All Work Under the Direction of Inspector

Pursuant to Title 24 requirements, the Contractor shall not carry on Work except with the knowledge of the Inspector. (See Title 24 generally)

3.1.4 Contractor to Establish Timing and Protocol with Inspector

Contractor shall establish a protocol for requesting inspection with Inspector so as to not delay the Work and provide adequate time for the Inspector to perform inspection. If such a protocol is not established ahead of time, Inspector may utilize the time criteria set by Title 24 of 48 hours in advance

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of submitting form DSA 156 for each new area. DSA requirements under PR 13-01 specifically gives the Special Inspector fourteen (14) days to post to the DSA website. Contractor is responsible for delays and for failure to plan.

For some Projects, there may be a need to incrementally install certain assemblies. It is up to Contractor to identify areas and assemblies that may be constructed incrementally. Contractor must identify and establish incremental areas of construction and establish protocols with Inspector for DSA 152 approvals so they may be presented to DSA. (See PR-13 item 1.17 for further discussion)

3.1.5 Verified Reports

The Contractor shall make and submit to the office from time to time, verified reports as required in Title 24 Section 4-366. As part of the Close-Out of the Project (see Article 9.9), Contractor shall be required to execute a Form 6-C as required under Title 24 Sections 4-343.

Contractor shall fully comply with any and all reporting requirements of Education Code sections 17315, et seq., in the manner prescribed by Title 24, as applicable.

3.1.6 Contractor Responsibility

The Contractor shall be responsible to the District for acts and omissions of the Contractor's employees, Subcontractors, material and equipment suppliers, and their agents, employees, invitees, and other persons performing portions of the Work under direct or indirect contract with the Contractor or any of its Subcontractors.

3.1.7 Obligations not Changed by Architect's Actions

The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract or by tests, inspections, or approvals required or performed by persons other than the Contractor.

3.1.8 Acceptance/Approval of Work

The Contractor shall be responsible to determine when any completed portions of the Work already performed under this Contract or provided pursuant to Article 6 are suitable to receive subsequent Work thereon.

3.2 SUPERVISION

3.2.1 Full Time Supervision

Unless personally present on the Project site where the Work is being performed, the Contractor shall keep on the Work at all times during its progress a competent, English speaking construction Superintendent satisfactory to the District. The Superintendent shall be present on a full-time basis, shall be dedicated exclusively to the Project and shall not share superintendency duties with another project or job. The Superintendent shall not be replaced except with written consent of the District. The Superintendent shall represent the Contractor in its absence and shall be fully authorized to receive and fulfill any instruction from the Architect, the Inspector, the District or any other District Representative (including CM in the cases where the District has a CM representative). All Requests for

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Information shall be originated by the Superintendent and responses thereto shall be given to the Superintendent. No Work shall begin on any day by any Subcontractor or other person on the Project site until the Superintendent has arrived, or shall any Work continue during the day after the Superintendent has departed from the Project site. The Superintendent shall have authority to bind Contractor through the Superintendent's acts. The Superintendent shall represent the Contractor, and communications given to the Superintendent shall be binding on the Contractor. Before commencing the Work, Contractor shall give written notice to District (and CM representative) and Architect of the name and a Statement of Qualifications of such superintendent. Superintendent shall not be changed except with written consent of District, unless a superintendent proves to be unsatisfactory to Contractor and ceases to be in its employ, in which case, Contractor shall notify District and Architect in writing. Contractor shall provide a replacement superintendent approved by the District prior to performing additional work.

3.2.2 Staff

Notwithstanding other requirements of the Contract Documents, the Contractor and each Subcontractor shall: (1) furnish a competent and adequate staff as necessary for the proper administration, coordination, supervision, and superintendence of its portion of the Work; (2) organize the procurement of all materials and equipment so that the materials and equipment will be available at the time they are needed for the Work; and (3) keep an adequate force of skilled and fit workers on the job to complete the Work in accordance with all requirements of the Contract Documents.

3.2.3 Right to Remove

District shall have the right, but not the obligation, to require the removal from the Project of any superintendent, staff member, agent, or employee of any Contractor, Subcontractor, material or equipment supplier.

3.3 LABOR AND MATERIALS

3.3.1 Contractor to Provide

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, material, equipment, tools, construction equipment and machinery, water, heat, air conditioning, utilities, transportation, and other facilities, services and permits necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.3.2 Quality

Unless otherwise specified, all materials and equipment to be permanently installed in the Project shall be new and shall be of the highest quality or as specifically stated in the Contract Documents. The Contractor shall, if requested, furnish satisfactory evidence as to kind and quality of all materials and equipment within ten (10) days of a written request by the District, including furnishing the District with bona fide copies of invoices for materials or services provided on the Project. All labor shall be performed by workers skilled in their respective trades, and shall be of the same or higher quality as with the standards of other school construction.

3.3.3 Replacement

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Any work, materials, or equipment, which do not conform to these requirements or the standards set forth in the Contract Documents, may be disapproved by the District, in which case, they shall be removed and replaced by the Contractor at no additional cost or extension of time to the District.

3.3.4 Discipline

The Contractor shall enforce strict discipline and good order among the Contractor's and Subcontractor's employees, and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. As used in this subsection, "unfit" includes any person who the District concludes is improperly skilled for the task assigned to that person, who fails to comply with the requirements of this article, or who creates safety hazards which jeopardize other persons and/or property.

3.3.5 Fingerprinting (Applicable at the time Project is Occupied and on all Projects where Workers will come in Contact with Pupils, such as Modernization Projects)

If applicable, Contractor shall comply with the applicable provisions of Education Code section 45125.1 in a method as determined by the District. Pursuant to Education Code section 45125.1, Contractor shall either conduct criminal background checks of all employees of Contractor assigned to the Project site, and shall certify that no employees who have been convicted of serious or violent felonies, as specified in Education Code section 45125.1, will have contact with pupils, by utilizing the Certification Regarding Background Checks and the corresponding Attachment "A" as found in the Contract Documents or shall be separated by a physical barrier from students.

If it is determined that Contractor must provide certification of employees, as part of such certification, Contractor must provide the District with a list of all employees providing services pursuant to this Agreement, and designate which sites such employees will be assigned. In performing the services set forth in this Agreement, Contractor shall not utilize any employees who are not included on the above-referenced list.

At District's sole discretion, District may make a finding, as authorized under Education Code section 45125.1, that Contractor's employees will have only "limited contact" with pupils. Contractor's failure to comply with this law shall be considered a material breach of this Agreement upon where this Agreement may be terminated, at District's sole discretion, without any further compensation to Contractor.

In the case of new construction Projects where there are no students, if the Project Schedule provides for Beneficial Occupancy or portions of the Project or if the Project should be delayed, then Contractor, at no additional costs, shall meet the requirements of either fingerprinting or providing a physical barrier as required by the District.

3.3.6 Noise, Drugs, Tobacco, and Alcohol

Contractor shall take all steps necessary to insure that employees of Contractor or any of its Subcontractors' employees do not use, consume, or work under the influence of any alcohol, tobacco or illegal drugs while on the Project. Contractor shall further prevent any of its employees or its Subcontractor employees from playing any recorded music devices or radios or wearing any radio headphone devices for entertainment while working on the Project. Likewise, Contractor shall prevent its employees or Subcontractor's employees from bringing any animal onto the Project. Contractors shall not violate any written school policies.

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3.3.7 Delivery of Material

Contractor shall place orders for materials or equipment so that the Work may be completed in accordance with the Construction schedule for the Work as set forth in Article 8 of this Agreement. Contractor shall, upon demand from the Architect, furnish to the Architect documentary evidence including, but not limited to purchase orders, invoices, bills of materials, work orders and bills of lading, showing that orders have been placed. Contractor shall have a system to receive materials and to ensure that the proper materials are being delivered, including in the case of critical materials to the Project, checking the delivery against Shop Drawings and ensuring that the materials meet the requirements of not only the Plans and Specifications, but also the approved Shop Drawings and Submittals and in conformance with Contractor's plan for delivery of materials (including but not limited to Contractor's representations in the Schedules for the Project and Contractor's equipment and materials schedule under Article 3.7.2.2). Contractor shall be responsible for all costs of accepting non-conforming materials delivered to the Project given Contractor's responsibilities and system for acceptance of deliveries. Contractor shall notify Inspector and District Representative (including CM) as early as possible, in writing, of the delivery of materials for the Project. The deliveries shall include documentation identifying the shipment sufficiently so that the Inspector, Architect or District Representative (including CM) may review the materials that are received. Under no circumstances shall materials be delivered to the Project site that are meant for another Project.

3.3.8 Liens and Other Security Interests of Subcontractors and Material Suppliers

No material, supplies, or equipment for the Work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with all improvements and appurtenances constructed or placed thereon by it, to District free from any claims, security interests, liens, or charges. Contractor further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any Work covered by this Contract shall have any right to place a lien upon the premises or any improvement or appurtenance thereof, except that Contractor may install metering devices or other equipment of a utility company or political subdivision, title to which is commonly retained by the utility company or political subdivision. In event of installation of any such metering device or equipment, Contractor shall advise District as to its owner within five (5) days of such installation in writing, prior to making the installation.

Contractor agrees to indemnify, defend and hold the District harmless from any liens, stop notices, or assertion of security interests, including judgments and levies. If after written notice Contractor fails to address the lien, stop notice, or other security interest, the District may proceed to address the lien, stop notice or claim and seek reimbursement from Contractor.

3.3.9 Title to Materials

The title to new materials or equipment for the Work of this Contract shall remain with Contractor until incorporated in the Work of this Contract until final acceptance of the Project; no part of said materials shall be removed from its place of storage, and Contractor shall keep an accurate inventory of all said materials and equipment in a manner satisfactory to the District or its authorized representative. Responsibility for materials remains with Contractor and Contractor shall replace materials in case of loss. District similarly may pay for materials stored off site, but Contractor shall remain responsible for the materials that are stored off site.

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3.3.10 Assemblies

For all material and equipment specified or indicated in the Drawings, the Contractor shall provide all labor, materials, equipment, and services necessary, (including engineering as specifically required with Shop Drawings or Deferred Approvals) for complete assemblies and complete working systems. Incidental items not indicated on the Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized in the Contract Documents in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and Specifications.

3.3.11 Noise Control

The Contractor shall be responsible for the installation of noise reducing devices on construction equipment. Contractor shall comply with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction equipment noise is subject to the control of the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). If school is in session at any point during the progress of the Project, and, in the District's reasonable discretion, the noise from such Work disrupts or disturbs the students or faculty or the normal operation of the school, at the District's request, the Contractor shall schedule the performance of all such Work around normal school hours or make other arrangements so that the Work does not cause such disruption or disturbance. There are specific periods of testing at operational schools and it is critical that Contractor control noise during periods of testing. In no event shall Contractor have a right to receive additional compensation or an extension to the Contract time as a result of any such rescheduling or the making of such arrangements. These controls shall be implemented during site preparation and construction. All noise related issues, including school operations, and noise during testing should be detailed in the Schedule provided pursuant to Article 8

3.4 WARRANTY

The Contractor warrants to the District and Architect that material and equipment furnished under the Contract will be of the highest quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty to District includes, but is not limited to, the following representations:

3.4.1 In addition to any other warranties provided elsewhere, Contractor shall, and hereby does, warrant all Work after the date of Notice of Completion of Work by District and shall repair or replace any or all such Work, together with any other Work, which may be displaced in so doing that may prove defective in workmanship or materials within a one (1) year period from date of Final Completion which shall be no later than the final date of Punch List as noted at Article 9.11) without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

3.4.2 In the event of failure of Contractor to comply with above mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at expense of Contractor who hereby agrees to pay costs and charges therefore immediately on demand.

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3.4.3 If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District, the District will attempt to give the notice required by this Article. If the Contractor cannot be contacted or does not comply with the District's requirements for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or attention which shall be charged against Contractor. Such action by the District will not relieve the Contractor of the guarantee provided in this Article or elsewhere in this Contract.

3.4.4 This Article does not in any way limit the guarantee on any items for which a longer warranty is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guarantee or warranty certificates upon completion of the project.

3.5 TAXES

Contractor will pay all applicable Federal, State, and local taxes on all materials, labor, or services furnished by it, and all taxes arising out of its operations under the Contract Documents. District is exempt from Federal Excise Tax, and a Certificate of Exemption shall be provided upon request.

3.6 PERMITS, FEES AND NOTICES

3.6.1 Payment

The Contractor shall secure and pay for all permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Work which are necessary after execution of the Contract and are legally required by any authority having jurisdiction over the Project, except those required by the Division of the State Architect (DSA). District shall be responsible for all testing and inspection as required by the DSA on-site or within the distance limitations set forth in Article 13.5.2, unless a different mileage range is specified in the Supplemental Conditions.

3.6.1.1 *DSA Fees.* DSA policy is to charge CCD review fees for processing and approval of changes in the Plans and Specifications through the Construction Change Document process. Contractor is specifically directed to the current DSA IR A-30 which provides fee structure and charges that will be incurred for proceeding with respect to the CCD process, a process that must be followed for each change in the Plans and Specifications.

3.6.2 Compliance

The Contractor shall comply with and give notices required by any law, ordinance, rule, regulation, and lawful order of public authorities bearing on performance of the Work. Specifically, the Division of State Architect provides State oversight of the Project and enforcement of Title 24 rules and regulations. Contractor is directed to the DSA website. There will be local governmental oversight from City, County or both. Finally, Regional Water Quality Control Board, State Fire Marshall, local fire marshal, Department of Industrial Relations, Department of Labor Standards Enforcement, and Air Quality Management District (Local and State) are some of the agencies that provide oversight and may require specific permits, fees, or provide oversight over the Project. Contractor represents understanding and specialized knowledge of the rules governing school districts and Contractor shall maintain compliance over the applicable rules and will file all documents required in order to ensure compliance with State, local, and other rules that apply to the Project.

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3.6.3 Responsibility

The Contractor shall perform all Work in conformance with every law, statute, ordinance, building code, rule or regulation. The Contractor shall assume full responsibility for such Work and shall bear the attributable cost of correction or project delay.

Pursuant to Title 24 Section 4-343(b):

“Contractor shall carefully study the approved Plans and Specifications and shall plan a schedule of operations well ahead of time.... All inconsistencies or items which appear to be in error in the Plans and Specifications shall be promptly called to the attention of the architect or registered engineer, through the inspector, for interpretation or correction.”

To help Contractor plan its operations, Contractor is directed to study the current version of the DSA 152 Inspection Card Manual identifying the exact steps the Inspector is to follow in the review and sign off process for the DSA 152. The DSA 152 Inspection Card Manual provides specific detail as to the order of operations, review items and compliance items beyond the Specifications and Plans which are reviewed for DSA compliance. The most current version of this manual is located on DSA’s website.

Contractor is also specifically directed to the time periods for posting of Special Inspection Reports and Inspector Notifications under DSA PR 13-01 since the timing of Inspection is not a Governmental Entity related delay.

3.7 SUBMITTALS REQUIRED AT THE COMMENCEMENT OF THE PROJECT

3.7.1 Requirements Within Ten (10) Calendar Days

Within ten (10) calendar days after Notice to Proceed, Contract shall submit the following:

- 3.7.1.1 Detailed Schedule of Values (See Article 9.2)
- 3.7.1.2 Submittal Listing and Schedule for Submittals
- 3.7.1.3 Critical Path Baseline Schedule (See Article 8)

3.7.2 Requirements Within Thirty-Five (35) Calendar Days

Within thirty-five (35) calendar days after Notice to Proceed, Contractor shall submit the following:

3.7.2.1 *All Submittals for the Project* except those specifically agreed upon by District and Architect, in writing, and shall be specifically incorporated into the Submittal section of the Schedule so as to not delay the Work. The agreement to allow a later Submittal does not mean that Article 3.3.7 is waived. Contractor shall order materials and ensure prices are honored and secured for the Project.

- a. Structural Steel may be included as a later Submittal than 35 days if Structural Steel is a significant portion of the Work, at least one or some

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of the Project is a structural steel structural system, or as specifically agreed upon by the Architect or District.

- b. It is specifically agreed that submissions of structural steel Submittals shall not be piecemeal (unless some portion is requested separately by the District or Architect), shall provide complete designs, shall be stamped by the structural steel Subcontractor, Contractor, and structural steel Subcontractor's structural engineer at time of submission and as further addressed in Article 3.9.
- c. In no case shall the submission of structural steel Drawings delay the critical path for the schedule. If a Milestone is provided for submission of complete structural steel Shop Drawings then the date shall be no later than as set forth in the Milestone

3.7.2.2 *Exceptions to Submittal Within Thirty-Five (35) Days by Written Agreement.* A written request detailing the specific reasons for a submission later than 35 days due to complexity of design or non-critical path status of the Submittal shall be submitted at the time the Baseline Schedule is submitted. The Baseline Schedule shall not include a delayed Submittal until written agreement is provided. In addition to the request for providing a Submittal after the thirty-five (35) day period, a copy of the Contract with the Subcontractor who shall be performing the Submittal, a written statement from the Subcontractor verifying that work has commenced on the Submittal and providing Subcontractor's own schedule of Milestones and completion dates, and a corresponding Submittal designation in the Schedule as required under Article 8. Approval of a delayed Submittal shall not result in any increase in the Contract Price or result in an extension of time for the completion of the Project.

3.7.2.3 *Piecemeal Submissions of Submittals.* Piecemeal Submittals mean providing portions of Shop Drawings or Submittals as they are being completed. The submission of piecemeal Submittals results in the appearance of a submission when there is inadequate information for the Architect or Engineer to adequately review a submission. Piecemeal differs from submission of complete buildings or phases of buildings or complete assemblies. The Architect may agree to allow submission of single buildings or areas as long as the Submittals are complete. .

3.8 DOCUMENTS, SAMPLES, AND COMPUTER AT THE SITE

The Contractor shall maintain at the Site for the District one current copy of the California Building Code, Titles 19 and 24 of the California Code of Regulations, any other document required by DSA, and one record copy of the Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record changes and selections made during construction. In addition, the Contractor shall maintain at the Site approved Shop Drawings, Product Data, Samples, and similar required Submittals. These documents shall be available to the Architect and shall be delivered to the Architect for delivery to the District upon completion of the Work.

Contractor shall have an operational computer with internet access so Contractor can review and post documents as required for the Project, including but not limited to the filing and posting of DSA required documents for the Project.

Contractor shall be prepared to review documents posted to the DSA Project website.

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3.9 SUBMITTALS INCLUDING SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

3.9.1 Definitions

3.9.1.1 *Deferred Approvals.* Approval of certain aspects of the construction may be deferred until the construction Contract has been awarded. To facilitate the design process, DSA grants Deferred Approval to the design and detailing of certain elements of the Project at the request of the Architect or Engineer of Record. Design elements that may be deferred may include, but are not limited to access floors, bleachers, elevator guide rails and related elevator systems, exterior wall systems - precast concrete, glass fiber reinforced concrete, etc., skylights, window wall systems, storefronts, stage rigging, and other systems as noted in the Contract Documents. (Also see Article 1.2.2.2 and 3.9.3)

3.9.1.2 *Shop Drawings.* The term “Shop Drawings” as used herein means Drawings, diagrams, equipment or product schedules, and other data, which are prepared by Contractor, Subcontractors, manufacturers, suppliers, or distributors illustrating some portion of the Work, and includes: illustrations; fabrication, erection, layout and setting Drawings; manufacturer’s standard Drawings; schedules; descriptive literature, instructions, catalogs, and brochures; performance and test data including charts; wiring and control diagrams; and all other Drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment, or systems and their position conform to the requirements of the Contract Documents.

3.9.1.3 *Manufactured* applies to standard units usually mass-produced, and “Fabricated” means items specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall: establish the actual detail of all manufactured or Fabricated items, indicate proper relation to adjoining work, amplify design details of mechanical and electrical systems and equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

3.9.1.4 *Submittals* is a term used interchangeably and sometimes refers to Shop Drawings, Product Data, and samples since all Subcontractor submissions are tracked in a Submittal Log and may include any of the noted items. However, generally, a Submittal is a manufacturer’s product information and Product Data including description, characteristics, size, physical characteristics, and requirements to prepare the jobsite for receiving of the particular manufactured item.

3.9.1.5 *Samples.* The term “samples” as used herein are physical examples furnished by Contractor to illustrate materials, equipment, or quality and includes natural materials, Fabricated items, equipment, devices, appliances, or parts thereof as called for in the Specifications, and any other samples as may be required by the Architect to determine whether the kind, quality, construction, finish, color, and other characteristics of the materials, etc., proposed by the Contractor conform to the required characteristics of the various parts of the Work. All Work shall be in accordance with the approved samples.

3.9.2 Shop Drawings.

3.9.2.1 *When Shop Drawings Are Required.* Shop Drawings are required for prefabricated components and for installation and coordination of these prefabricated components into the Project. In addition, Shop Drawings, are prepared to address the actual size and installation of components from various Subcontractors and provides an opportunity for the Contractor to coordinate

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and address conflicts between the subcontracting trades. In some cases, each Subcontractor or trade will provide Shop Drawings in a BIM format or other format as agreed by District.

3.9.2.2 *Purpose for Shop Drawings.* Shop Drawings are the Contractor's manufacturer, Subcontractor, supplier, vendor or the Contractor's detailed drawings showing particularized method for assembly, specifics to a manufacturer, manufacturer component installation requirements, specifics as to a manufactured item, alterations to a manufactured, a custom created item, or drawn version of more detailed information expanding on the Architect's design shown in the Contract Documents. The Shop Drawings address the appearance, performance, size, weight, characteristics and prescriptive descriptions associated with the Contractor or Contractor's Subcontractor's plan for installation or assembly based on the design in the Specifications and Contract Documents. The Shop Drawing often is more detailed than the information shown in the Contract Documents to give the Architect and Engineer the opportunity to review the fabricator's version of the product (along with particulars specific to that particular product), prior to fabrication. References to the Contract Documents, Construction Documents, Drawings, Plans, and Specifications assist the Architect and Engineer in their review of the Shop Drawings. Attachment of manufacturer's material Specifications, "catalog cut sheets," and other manufacturer's information may be provided to accompany Shop Drawings. Because Shop Drawings facilitate the Architect's and Engineer's approval of the system, they should be as clear and complete as possible so they may be reviewed by Architect or Engineer for the Project.

3.9.2.3 *Shop Drawing Requirements.* The Contractor shall obtain and submit with Shop Drawings all seismic and other calculations and all Product Data from equipment manufacturers. "Product Data" as used herein are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

3.9.2.4 *Not a Reproduction of Architectural or Engineering Drawings.* The Shop Drawings are not a reproduction of the architectural or engineering Drawings. Instead, they must show more detail than the Construction Documents and details the fabrication and/or installation of the items to the manufacturer's production crew or Contractor's installation crews.

3.9.2.5 *Shop Drawings Engineering Requirements:* Some Shop Drawings require an engineer stamp to be affixed on the Drawings and calculations. In such cases, a current and valid engineering stamp shall be affixed by a California registered engineer. No out of State engineers shall stamp Shop Drawings. (See DSA IR A-18). In most cases, an engineer means California registered mechanical, structural, electrical or plumbing engineer. California Registered Civil Engineers will not be accepted for structural details unless specifically approved by DSA.

3.9.2.6 *DSA Approvals Required Prior to Work.* No work on a Shop Drawing that requires DSA approval may proceed until DSA approval is received. Contractor has provided DSA approval time and allowed adequate time for corrections in Contractor's Schedule as required pursuant to Article 8.

3.9.2.7 *Shop Drawing Identification.* All Shop Drawings must be properly identified with the name of the Project and dated, and accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as "clouding" all qualifications, departures, or deviations from the Contract Documents. Shop Drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be

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made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor.

3.9.3 Deferred Approvals

Deferred approvals shall be submitted and processed to ensure all DSA and other governmental approvals are secured so as to not delay the Project. There may be additional requirements for Deferred Approvals at Division 1 of the Specifications. All Deferred Approvals shall be prepared by Contractor or Contractor's agent early enough so as to not delay the Project. Contractor is aware that Title 24 California Code of Regulations Section 4-317 have specific requirements for Deferred Approval as to governing agencies and as to the Architect and Engineer for the Project. As a result, any delay associated with the time for approval by applicable agencies or by the Architect or Architect's consultants shall be Contractor's. Contractor is required to comply with inclusion of Deferred Approvals in the Schedule as required under Article 3.9.6 *DSA Approvals Required Prior to Work*. No work on a Deferred Approval item may proceed on the components until DSA approval is received. Contractor has provided DSA approval time and allowed adequate time for any DSA revisions in Contractor's Schedule as required pursuant to Article 8.

3.9.4 Submittals and Samples

3.9.4.1 *Information Required With Submittals:* Manufacturer, trade name, model or type number and quantities: Information provided must be of sufficient detail to allow Architect and Engineer to compare the submitted item with the specified products and acceptable products listed, in the Specifications and addenda.

3.9.4.2 *Description of Use and Performance Characteristics:* Information should be furnished describing the normal use and expected performance of the product. The Architect and Contractor review this information to confirm that the product is appropriate for the intended use.

3.9.4.3 *Size and Physical Characteristics:* The size and physical characteristics, such as adjustment capabilities, which is reviewed by both the Contractor and Architect. The Contractor has the most available information for comparing adjoining materials and equipment. The Contractor also needs to know the size and weight of the equipment for lifting and handling considerations.

3.9.4.4 *Finish Characteristics:* The Architect reviews the available finishes and selects the appropriate finish, if the finish was not previously specified in the documents. The Contractor should confirm that finish requirements in the Specifications are being met by the product.

3.9.4.5 *Contractor Responsible for Jobsite Dimensions:* Some material is custom-fabricated to job conditions, requiring dimensions from the jobsite. These jobsite dimensions are provided by the Contractor as part of the Contractor's responsibilities for the Project and shall be provided prior to release of the product for manufacture. Contractor shall not rely on Architect or Engineers to provide jobsite dimensions.

3.9.4.6 *Full Range of Samples Required (When Specific Items Not Specified).* Except in cases where the exact color and type of item is specified since the District is utilizing items Standardized or pre-selected by District, the full range of color, graining, texture, or other characteristics are anticipated for review in finished products, a sufficient number of samples of the specified materials shall be furnished by the Contractor to indicate the full range of characteristics which will be present in the finished products. Products delivered or erected without Submittal and approval without providing a

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full range of samples shall be subject to rejection. Except for range samples, and unless otherwise called for in the various sections of the Specifications or Specification Section 1, samples shall be submitted in duplicate.

3.9.4.7 *Labeling of Samples.* All samples shall be marked, tagged, or otherwise properly identified with the name of the submitting party, the name of the Project, the purpose for which the samples are submitted and the date.

3.9.4.8 *Transmittal letter.* All samples shall be accompanied by a letter of transmittal containing similar information, together with the Specification section number.

3.9.4.9 *Labels and Instructions.* All samples of materials shall be supplied with the manufacturer's descriptive labels and application instructions. Each tag or sticker shall have clear space for the review stamps of Contractor and Architect.

3.9.4.10 *Architect's Review.* The Architect will review and, if appropriate, approve submissions and will return them to the Contractor with the Architect's stamp and signature applied thereto, indicating the timing for review and appropriate action in compliance with the Architect's (or District's) standard procedures. In the cases where a CM is hired by the District, CM may be the party that receives and performance logging and initial processing of the Samples. CM may, in some cases, reject samples that are not in conformance with Contract requirements.

3.9.5 Submittal Submission Procedure

3.9.5.1 *Transmittal Letter and Other Requirements.* All Submittals must be properly identified with the name of the Project and dated, and each lot submitted must be accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as "clouding" on the submissions, all qualifications, departures, or deviations from the Contract Documents. Shop Drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor. Refer to Division 1. In the case where a CM is hired on the Project, the CM may be designated to receive the Submittals for the Project, log the Submittals, and in some cases reject Submittals that do not conform to Contract requirements. Submittal Procedures for further information.

3.9.5.2 *Copies Required.* Each Submittal shall include one (1) legible, reproducible (if electronic is available, electronic copies shall also be provided) and five (5) legible prints of each drawing or schedule, table, cut sheet, etc., including fabrication, erection, layout and setting drawings, and such other drawings as required under the various sections of the Specifications, until final acceptance thereof is obtained. Subcontractor shall submit copies, in an amount as requested by the Contractor, of: (1) manufacturers' descriptive data for materials, equipment, and fixtures, including catalog sheets showing dimensions, performance, characteristics, and capacities; (2) wiring diagrams and controls; (3) schedules; (4) all seismic calculations and other calculations; and (5) other pertinent information as required by the District or Architect. (See also Division 1)

3.9.5.3 *Corrections.* The Contractor shall make all corrections required by Architect, District or CM and shall resubmit, as required by Architect or CM, corrected copies of Shop Drawings or new samples until approved. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections required by the Architect on previous

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submissions. Professional services required for more than one (1) re-review of required Submittals of Shop Drawings, Product Data, or samples are subject to charge to the Contractor pursuant to Article 4.5.

3.9.5.4 *Approval Prior to Commencement of Work.* No portion of the Work requiring a Shop Drawing or sample submission or other Submittal shall be commenced until the submission has been reviewed by Contractor and Architect (and CM, if applicable) and approved by Architect (and CM where applicable) unless specifically directed in writing by the Architect. All such portions of the Work shall be in accordance with approved Shop Drawings and samples.

3.9.5.5 *District's Property.* All Submittals, Shop Drawings, computer disks, BIM modeling information, clash checks, schedules, annotated Specifications, samples and other Submittals shall become the District's property upon receipt by the District or Architect.

3.9.6 Schedule Requirements for Submittals

Contractor shall obtain and shall submit all required Submittals (i.e. Shop Drawings, Deferred Approvals, Samples, etc.), in accordance with Contractor's "Schedule for Submission of Shop Drawings and Samples" as required in the scheduling portion of the General Conditions at Articles 8 and the Specifications (as long as the Specifications do not conflict with General Conditions. In the case of conflict, the conflicting provision shall be controlled by the General Conditions and the remaining Specifications sections shall be interpreted as if the general conditions language is inserted) with such promptness as to cause no delay in its own Work or in that of any other contractor or subcontractor but in no event later than thirty five (35) days after the Notice to Proceed is issued except in the specific cases noted as an exception under Article 3.7.2.1. No extensions of time will be granted to Contractor or any Subcontractor because of its failure to have Shop Drawings and samples submitted in accordance with Division 1 and the Schedule. Each Subcontractor shall submit all Shop Drawings, samples, and manufacturer's descriptive data for the review of the District, the Contractor, and the Architect through the Contractor.

3.9.6.1 *Consideration of Schedule.* Contractor has considered lead times, DSA or other agency governmental review times, Architect or Engineer review times, manufacturing seasons, and specific long lead procurement concerns for all submittals for the Project.

3.9.7 General Submittal Requirements

3.9.7.1 *Contractor Submittal Representations and Coordination.* By submitting Shop Drawings, Product Data, samples, etc., the Contractor represents that it has determined and verified all materials, field measurements, catalog numbers, related field construction criteria, and other relevant data in connection with each such submission, and that it has checked, verified, and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents, including the construction schedule.

3.9.7.2 *Contractor Coordination.* Contractor shall stamp, sign, and date each Submittal indicating its representation that the Submittal meets all of the requirements of the Contract Documents and evidence Contractor's review through execution of the following stamp to be placed on each Shop Drawings:

“[Contractor] has reviewed and approved the field dimensions and the construction criteria, and has also made written notation regarding any information in the Shop Drawings and Submittals that does not conform to the Contract Documents. This Shop

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Drawing or Submittal has been coordinated with all other Shop Drawings and Submittals received to date by me as Contractor and this duty of coordination has not been delegated to Subcontractors, material suppliers, the Architect, or the Engineers on this Project.

Signature of Contractor and date

3.9.7.3 *No Deviation from Contract Documents.* The submission of the Shop Drawings, Product Data, samples, etc., shall not deviate from the *requirements* of the Contract Documents including detailing and design intent which is specifically outlined in Contract Documents except as specifically authorized by the Architect or through an accepted substitution pursuant to Article 3.10.4. All deviations from the Contract Documents shall be narratively described in a transmittal accompanying the Shop Drawings. However, Shop Drawings shall not be used as a means of requesting a substitution, the procedure for which is defined in Article 3.10.4, “Substitutions.”

3.9.7.4 *Contractor Responsibility for Shop Drawings Conformance to Contract Documents.* Review by District and Architect shall not relieve the Contractor or any Subcontractor from its responsibility in preparing and submitting proper Shop Drawings in accordance with the Contract Documents.

3.9.7.5 *Incomplete Submittals.* Any submission, which in Architect’s opinion is incomplete, contains errors, or has been checked superficially, will be returned not reviewed by the Architect for resubmission by the Contractor. Refer to Submittal Procedures of the Specifications for additional information. The Contractor shall be responsible for any related delays and shall not be the basis for any Claim.

3.9.7.6 *Shop Drawings and Submittals Shall Not Be Used as a Method to Make a Substitution.* Shop Drawings and Submittals shall not be used as a means of requesting a substitution or to make changes in the Contract Documents. If changes are made to the Contract Documents through the Shop Drawings, the Architect shall have the right to reject the Submittal. If the Architect does not note the deviation from the approved Plans and Specifications, the Contractor is still responsible for the change and the Architect or the District may require the Shop Drawings be revised to properly reflect the approved Contract Documents. The Architect or District may also require that the Contractor bear all costs under Article 4.5 and consequential damages associated with a CCD to revise Plans and Specifications to accommodate the deviation from approved Plans and Specifications.

3.9.7.7 Extent of Review. In reviewing Shop Drawings, the Architect will not verify dimensions and field conditions. The Architect will review and approve Shop Drawings, Product Data, samples, etc., for aesthetics and for conformance with the design concept of the Work and the information in the Contract Documents. The Architect’s review shall neither be construed as a complete check which relieves the Contractor, Subcontractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents unless the Contractor has, in writing, called the Architect’s attention to the deviations at the time of submission. The Architect’s review shall not relieve the Contractor or Subcontractors from responsibility for errors of any sort in Shop Drawings or schedules, for proper fitting of the Work, coordination of the differing Subcontractor trades and Shop Drawings and Work which is not indicated on the Shop Drawings at the time of submission of Shop Drawings. Contractor and Subcontractors shall be solely responsible for any quantities which may be shown on the Submittals or Contract Documents.

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3.10 SUBSTITUTIONS

3.10.1 Definition

A Substitution is a change in product, material, equipment, or method of construction from those required by the Construction Documents proposed by the Contractor. For this Project, a Substitution is subject to the filing of a Construction Substitution Request Form at the time of bid and meeting the requirements of this Article.

3.10.2 One Product Specified

Unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific article, device, equipment, product, material, fixture, patented process, form, method, or type of construction or any specific name, make, trade name, or catalog number, with or without the words “or equal,” such specification shall be deemed to be used for the purpose of facilitating description of the material, process, or article desired and shall be deemed to be followed by the words “or equal.” Subject to the requirements of properly submitting a Substitution Request for as Addressed in Article 3.10.4, the Contractor may, unless otherwise stated, offer any material, process, article, etc., which shall be materially equal or better in every respect to that so indicated or specified (“Specified Item”) and will completely accomplish the purpose of the Contract Documents.

3.10.3 Products Specified Which Are Commercially Unavailable

If the Contractor fails to make a request for substitutions for products, prior to the submission of its bid, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item. The decision to grant this request is solely at the District’s discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the Contract Price should the substituted item cost less than the Specified Item. All risks of delay due the approval of a requested substitution by the DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, DSA review costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor’s pay request.

3.10.4 Substitution Request Form

Requests for substitutions of products, materials, or processes in place of a Specified Item must be in writing on the District’s Substitution Request Form (“Request Form”) at the time of submitting bids to the District, except as provided for in Article 3.10.3.

The Request Form must be accompanied by evidence as to whether the proposed substitution:

- a. Is equal in quality/service/ability to the Specified Item;
- b. Will entail no changes in detail, construction, and scheduling of related work;
- c. Will be acceptable in consideration of the required design and artistic effect;

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- d. Will provide no cost disadvantage to the District;
- e. Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
- f. Will required no change of the construction schedule.

In completing the Request Form, the bidder must state, with respect to each requested substitution, whether the bidder will agree to provide the Specified Item in the event that the District denies the bidder's request for such requested substitution. In the event that the bidder has agreed in the Request Form to provide the Specified Item and the District denies the bidder's requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District.

After bids are opened, the apparent lowest bidder shall provide, within five (5) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as may be required to assist the Architect, CM and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

After the District's receipt of such evidence by the bidder, the District will make its final decision as to whether the bidder's request for substitution for any Specified Items will be granted. The decision as to whether a proposed request for substitution is equal to a Specified Item shall be at the sole discretion of the District. Any request for substitution that is granted by the District shall be documented and processed though a Change Order. Contractor must submit a complete Submittal of the requested substitution and a Shop Drawing showing configuration, dimensions, and other critical information associated with the substitution that meets the requirements of Article 3.9. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or other assurances of adequate performance of the substitution. Any and all risks of delay due to approval by the DSA or any other governmental agency having jurisdiction shall be on the bidder.

If the Architect and District accept a proposed substitution, the Contractor agrees to pay for all DSA review costs, engineering and design services, including, without limitation, compensation to the Architect and affected engineers for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District.

3.10.5 Substitution Requests After Bid

The District, in its sole discretion, may accept a request for substitution by the Contractor or may request Contractor substitute a specified item. Any substitutions requested after bids are opened shall be subject to the same conditions and requirements set forth in Article 3.10.4 above. If any substitutions, that in the District or Architect's determination, results in a credit to the District, the credit amount shall be agreed upon in writing, otherwise, the request for substitution shall be deemed denied.

3.11 INTEGRATION OF WORK

3.11.1 Scope

The Contractor shall be responsible for cutting, fitting, or patching to complete the Work and to make all parts fit together properly. Contractor shall be responsible for ensuring that all trades are

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coordinated and scheduled so as to ensure the timely and proper execution of the work. When modifying existing work or installing new Work adjacent to existing work, Contractor shall match, as closely as conditions of Site and materials will allow, the finishes, textures, and colors of the original work, refinishing existing work at no additional cost to District. All cost caused by defective or ill-timed work shall be borne by Contractor. Contractor shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines.

3.11.2 Structural Members

New or existing structural members and elements, including reinforcing bars and seismic bracing, shall not be cut, bored, or drilled except by written authority of the Architect. Work done contrary to such authority is at the Contractor's risk and subject to replacement at its own expense without reimbursement under the Contract. Schedule delays resulting from Agency approvals for unauthorized work shall be the Contractor's responsibility.

3.11.3 Subsequent Removal

Permission to patch any areas or items of the Work shall not constitute a waiver of the District's or the Architect's right to require complete removal and replacement of the areas or items of the Work if, in the opinion of the Architect or the District, the patching does not satisfactorily restore quality and appearance of the Work or does not otherwise conform to the Contract Documents.

3.12 CLEANING UP

3.12.1 Contractor's Responsibility to Clean Up

Contractor at all times shall keep premises free from debris such as waste, dust, excess water, storm water runoffs, rubbish, and excess materials and equipment. Contractor shall not leave debris under, in, or about the premises, but shall promptly remove same from the premises and dispose of it in a lawful manner. Disposal receipts or dump tickets shall be furnished to the Architect within five (5) days of request.

Contractor shall remove rubbish and debris resulting from the Work on a daily basis. Contractor shall maintain the structures and Site in a clean and orderly condition at all times until acceptance of the Project by the District. Contractor shall keep its access driveways and adjacent streets, sidewalks, gutters and drains free of rubbish, debris and excess water by cleaning and removal each day. All concrete, sidewalks, and paths of travel shall be broom cleaned daily.

3.12.2 General Final Clean-Up

Upon completion of Work, Contractor shall employ experience workers or professional cleaners for final cleaning. Contractor shall clean each surface to the condition expected in a normal, commercial, building cleaning and maintenance program including, but not limited to, the performed of the following:

- a. Clean interior and exterior of buildings, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected, so surfaces are free from foreign material or discoloration;

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- b. Clean the Project site. The grounds should be cleared of any Contractor equipment, raked clean of debris and trash removed. Sweep paved areas broom clean;
- c. Repair or replace any damaged materials. Replace any chipped or broken glass;
- d. Remove any and all stains;
- e. Remove labels that aren't permanent labels;
- f. Clean and polish all glass, plumbing fixtures, equipment, finish hardware and similar finish surfaces. Remove any glazing compounds;
- g. Remove temporary utilities, fencing, barricades, planking, sanitary facilities and similar temporary facilities from Site;
- h. Remove temporary film that remains on any hardware, doors or other surfaces; and
- i. Seal the bottom and tops of all doors.

3.12.3 Special Clean-Up.

In addition to the general cleaning, the following special cleaning shall be done at the completion of the Work in accordance with the Specifications including, but not limited to:

- a. Remove putty stains from glazing, then wash and polish glazing;
- b. Remove marks, stains, fingerprints and other soil or dirt from painted, stained or decorated work;
- c. Remove temporary protection and clean and polish floors and waxed surfaces;
- d. Clean and polish hardware and plumbing trim; remove stains, dust, dirt, plaster and paint;
- e. Wipe surfaces of mechanical and electrical equipment;
- f. Remove spots, soil, plaster and paint from tile work, and wash tile;
- g. Clean all fixtures and equipment, remove excess lubrication, clean light fixtures and lamps, polish metal surfaces;
- h. Vacuum-clean carpeted surfaces; and
- i. Remove debris from roofs, down spout and drainage system.

3.12.4 Failure to Cleanup

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If the Contractor fails to clean up as provided in the Contract Documents, the District may do so, and the cost thereof shall be the responsibility of the Contractor pursuant to Article 2.2 and seek a Deductive Change Order.

3.13 ACCESS TO WORK

The Contractor shall provide the District, the Architect, Engineers and the Inspector of Record, access to the Work in preparation and progress wherever located. Contractor shall provide safe and proper facilities for such access so that District's representatives may perform their functions.

CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES AS ADDRESSED IN ARTICLE 6.

3.13.1 Special Inspection, Inspections or Tests Out of State, Out of Country or Remote from Project

If Contractor has a Subcontractor or supplier that requires in plant or special inspections or inspections or tests that are out of the country, out of the state, or a distance of more than 200 miles from the Project site, the Special Inspector or Inspector shall be provided access so the special inspection or inspection may occur in the remote location. In some cases, the DSA Inspector may also require access in addition to Special Inspectors and individuals performing tests. Inspections/tests shall occur during normal work hours. (See also Article 4.3.6)

3.14 ROYALTIES AND PATENTS

3.14.1 Payment and Indemnity for Infringement

Contractor shall hold and save the District and its officers, agents, and employees, the Construction Manager, the Architect, and the Architect's consultants harmless from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the District, unless otherwise specifically provided in the Contract Documents, and unless such liability arises from the sole negligence, or active negligence, or willful misconduct of the District, the Architect, or the Architect's consultants.

3.14.2 Review

The review by the Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be for its adequacy for the Work and shall not be an approval for the use by the Contractor in violation of any patent or other rights of any person or entity.

3.15 INDEMNIFICATION

3.15.1 Contractor

See Agreement Form. Contractor shall ensure that its contract with each of its Subcontractors contains provisions requiring the Subcontractors to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California to a minimum level as set forth in this Article and consistent with the indemnity and hold harmless language in the Agreement Form.

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The Contractor's and Subcontractors' obligation to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors hereunder shall include, without limitation, any and all claims, damages, and costs for the following: (1) any damages or injury to or death of any person, and damage or injury to, loss (including theft), or loss of use of, any property; (2) breach of any warranty, express or implied; (3) failure of the Contractor or Subcontractors to comply with any applicable governmental law, rule, regulation, or other requirement; (4) products installed in or used in connection with the Work; and (5) any claims of violation of the Americans with Disabilities Act ("ADA")

3.16 SUBMISSION OF DAILY REPORTS

3.16.1 General

By 10:00 a.m. on the following business day, the Contractor shall submit a Daily Report to the Inspector and copy the Architect for the previous day's Work. If there is a Construction Manager, the original Daily Report is to be provided to the Construction Manager and copies sent to the Architect and the Inspector. Daily Reports shall be prepared on forms approved by the District, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day. The District reserves the right to note inconsistencies or inaccuracies in the Daily Reports. In such cases, pertinent notes shall be entered by each party to explain points which cannot be resolved that day. Each party shall retain a signed copy of the report. Daily Reports by Subcontractors or others shall be submitted through the Contractor.

3.16.2 Labor

The Daily Report shall show names of workers, classifications, hours worked and hourly rate. The locations where work occurred shall also be identified in the Daily Report. Project superintendent expenses are not allowed.

3.16.3 Materials

The Daily Report required shall describe and list quantities of materials used and unit costs.

3.16.4 Equipment

The Daily Report required shall show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable, and hourly/daily cost. Move-on and move-off fees shall be noted.

3.16.5 Other Services and Expenditures

Other services and expenditures shall be described in the Daily Report in detail as the District requires.

3.16.6 Failure to Submit Daily Report

If Contractor does not submit its Daily Report by 10 am the next business day, the Inspector of Record shall prepare a Daily Report addressing each of the above items. The cost for the

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Inspector's services to prepare the Daily Report shall be addressed through a Deductive Change Order under Article 7.7.4.

3.17 AS-BUILT DRAWINGS AND ANNOTATED SPECIFICATIONS

Throughout the duration of the Project, Contractor shall maintain on a current basis an accurate and complete set of As-Built Drawings (and Annotated Specifications) clearly showing all changes, revisions to Specifications and substitutions during construction, including, without limitation, field changes and the final location of all electrical and mechanical equipment, utility lines, ducts, outlets, structural members, walls, partitions, and other significant features. In case a Specification allows Contractor to elect one of several brands, makes, or types of material or equipment, the annotations shall show which of the allowable items the Contractor has furnished. The Contractor will update the As-Built Drawings and Annotated Specifications as often as necessary to keep them current, but no less often than weekly.

Contractor shall update As-Built Drawings with complete information on an area of Work at or near the time when the Work is being performed and prior to any DSA 152 sign off and prior to any Work being covered.

The As-Built Drawings and Annotated Specifications shall be kept at the Site and available for review and inspection by the District and the Architect. Failure to maintain and update the As-Built Drawings is a basis to withhold Progress Payments pursuant to Article 9.6.

3.17.1 Upon Beneficial Occupancy

Contractor shall obtain and pay for reproducible Plans upon Beneficial Occupancy. Contractor shall deliver Plans to District Representative (Construction Manager if one is hired for the Project).

3.17.2 As-Built at Completion of Work

Upon completion of the Work and prior to and as a condition precedent to Application for Retention Payment, the Contractor will provide one neatly prepared and complete set of As-Built Drawings and Annotated Specifications to the District. Contractor shall certify the As-Built as a complete and accurate reflection of the actual construction conditions of the Work by affixing a stamp indicating the Drawings are As-Built and certifying accuracy on the final set of As-Built. Failure to deliver a complete As-Built set of Drawings may result in significant withholdings to ensure Work is properly documented. (See Article 9.9.2)

3.17.3 Log of Control and Survey Documentation

Contractor shall complete and maintain an accurate log or all control and survey documentation for the Project as the Work progresses. All reference and control points shall be recorded on the As-Built Drawings. The basis of elevations shall be one of the established benchmarks that must be maintained on the As-Built.

3.17.4 Record Coordinates for Key Items

Contractor shall record, by coordinates, all utilities on-site with top of pipe elevations, major grade and alignment changes, rim, grate or top of curb and flow line elevations of all drainage

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structures and sewer manholes. Contractor shall update record information at or near the time when work is occurring in an area and prior to DSA 152 sign off on any category of Work and prior to covering the Work.

3.17.5 BIM As-Built Drawings

If BIM is utilized for the Project, then an electronic version of such As-Built Drawings and Annotated Specifications will be delivered to District (in an acceptable format to District).

3.18 EQUIPMENT MANUALS

Contractor shall obtain and furnish three (3) complete sets of manuals containing the manufacturers' instructions for maintenance and operation of each item of equipment and apparatus furnished under the Contract Documents and any additional data specifically requested under the various sections of the Specifications for each division of the Work. The manuals shall be arranged in logical, sequential order, labeled, indexed, and placed in three-ring binders. At the completion of its Work, the Contractor shall certify, by endorsement thereon, that each of the manuals is complete, accurate, and covers all of its Work. Prior to submittal of Contractor's Application for Retention Payment, and as a further condition to its approval by the Architect, each Subcontractor shall deliver the manuals, arranged in logical, sequential order, labeled, indexed, endorsed, and placed in three-ring binders, to the Contractor, who shall assemble these manuals for all divisions of the Work, review them for completeness, and submit them to the District through the Architect.

3.19 DIR REGISTRATION

Strict compliance with all DIR registration requirements in accordance with Labor Code sections 1725.5 and 1771.1 is a material obligation of the Contractor and all of its subcontractors (of any tier) under the Contract Documents. The foregoing includes, without limitation, compliance with DIR registration requirements at all times during performance of the Work by the Contractor and all of its subcontractors of any tier. The failure of the Contractor and all subcontractors of any tier to be properly registered with DIR at all times during performance of the Work is a material breach of the Contract and subject to termination for cause.

An affirmative and ongoing obligation of the Contractor under the Contract Documents is the verification that all subcontractors of any tier are at all times during performance of the Work in full and strict compliance with the DIR registration requirements. The Contractor shall not permit or allow any subcontractor of any tier to perform any Work without the Contractor's verification that all subcontractors are in full and strict compliance with the DIR registration requirements. Any subcontractors of any tier not properly registered with DIR shall be substituted in accordance with Labor Code section 1771.1. Contractor or its subcontractors of any tier shall not be entitled to any additional costs or time arising from or in any way related to compliance with the DIR registration requirements.

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ARTICLE 4 ADMINISTRATION OF THE CONTRACT AND CLAIMS

4.1 ARCHITECT

4.1.1 Replacement of Architect

In the case of the termination of the Architect, the District may appoint an Architect or another construction professional or may perform such functions with its own licensed professional personnel. The status of the replacement Architect under the Contract Documents shall be the same as that of the former Architect.

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

4.2.1 Status

Pursuant to Titles 2 of the California Code of Regulations and as required pursuant to the Field Act, Education Code 17280 et seq., the Architect will provide administration of the Contract Documents and the Work, and will be the District's representative during construction, as well as during the one (1) year period following the commencement of any warranties. The Architect will have authority to act on behalf of the District only to the extent provided in the Contract Documents.

4.2.2 Site Visits

The Architect will visit the Site at intervals necessary in the judgment of the Architect to become generally familiar with the progress and quality of the Work and to determine in general if the Work is being performed in accordance with the Contract Documents and as otherwise required by DSA.

4.2.3 Limitations of Construction Responsibility

The Architect, District and CM shall not have control over, charge of, or be responsible for construction means, methods, techniques, schedules, sequences or procedures, fabrication, procurement, shipment, delivery, receipt, installation, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility under the Contract Documents. The Architect, District and CM shall not be responsible for the Contractor's, Subcontractors', material or equipment suppliers', or any other person's schedules or failure to carry out the Work in accordance with the Contract Documents. The Architect, District and CM shall not have control over or charge of acts or omissions of the Contractor, Subcontractors, their agents or employees, or any other persons or entities performing or supplying portions of the Work. The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect, District or CM in the Architect, District or CM's administration of the Contract Documents, or by tests, inspections, or approvals required or performed by persons other than the Contractor.

4.2.4 Communications Facilitating Contract Administration

Except where a CM is on the Project, or as otherwise provided in the Contract Documents or when direct communications are warranted by special circumstances, the District and the Contractor shall communicate through the Architect. In the cases where a CM is hired for the Project, all

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communication shall be through the CM (unless otherwise directed) with copies to the District, Architect and Inspector. Where direct communication is necessary between the District and the Contractor, the District's communication shall be through the District's authorized designated person. The Architect and CM shall be promptly informed, and shall receive copies of all written communications. Contractor shall not rely upon any communications from the District that is not from the District's Representative. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material or equipment suppliers shall be through the Contractor. In the case where a CM is hired for the Project, the CM shall be the main point of contact for communication of information. Copies should be sent to the Architect, District Representative and Inspector.

4.2.5 Payment Applications

The Architect will review and make recommendations to the District regarding the amounts due the Contractor on the Certificates for Payment pursuant to Article 9.3.4 and subject to the Inspector's review, (CM review, if applicable) and Architect's observation. This review of Payment Applications is sometimes called a "Pencil Draft." Return of a Pencil Draft shall constitute the District's dispute of the Payment Application that has been submitted. Contractor shall promptly respond to Pencil Drafts or Contractor's Payment Applications may be delayed. Contractor's failure to promptly respond to a Pencil Draft shall qualify as a delay in the Prompt Payment of a Request for Payment or Request for Retention.

4.2.6 Rejection of Work

In addition to the rights, duties, and obligations of the Inspector under this Article, the Architect may recommend to the District that the District reject Work which does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable to achieve the intent of the Contract Documents, the Architect (and/or CM) may recommend to the District that the District require additional inspection or testing of the Work in accordance with Article 13.5, whether or not such Work is Fabricated, installed, or completed. District may have Non-conforming Work removed and replaced pursuant to Article 9.7. However, neither this authority of the Architect (or CM) nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect (or CM) to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

Contractor shall, without charge, replace or correct Work found by the District to not be in conformance to Contract requirements. Contractor shall promptly segregate and remove rejected materials from the Project site.

This section does not address a Notice of Non-Compliance and the remedies associated with a Notice of Non-Compliance which are addressed at Article 7.1.2

4.2.7 Warranties upon Completion

The Architect (and where applicable CM), in conjunction with the Inspector will conduct field reviews of the Work to determine the date of Substantial Completion and of Final Completion, shall receive and forward to the District for the District's review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment when the Architect believes the Work has been completed in compliance with the requirements of the Contract Documents (See Article 9.11 for Close-Out). The handling by the Architect (or where applicable CM) of such warranties, maintenance manuals, or similar documents shall not diminish or

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transfer to the Architect any responsibilities or liabilities required by the Contract Documents of the Contractor or other entities, parties, or persons performing or supplying the Work.

On some Projects, the District will take a phased occupancy of the Project. In those cases, the District may commence the running of warranties on the buildings, or phases that are accepted after Punch List is completed and the District has accepted Completion of the separate phase. A separate Notice of Completion may be filed for the separate building or phase of work and warranties shall commence for the separate phase only to the extent that warranties do not require coordination or connection to other buildings or other parts of the site and only if the warranted item is completed to its entirety in the segregated building or phased area.

If written warranties are not provided at the time the Punch List is nearing completion, Architect (with recommendations from the CM and Inspector) shall determine the dollar value of the warranties and shall make recommendation for withholdings necessary to effectuate the transfer of such warranties to the District for future use as part of the Punch List for the Project pursuant to Article 9.6.

Warranties are not commenced through utilizing of equipment for testing and operation as necessary to acclimate buildings or where necessary to test systems.

4.2.8 Interpretation

The Architect will interpret and decide matters concerning performance and requirements of the Contract Documents. Architect shall make clarifications as necessary to interpret the Contract Documents.

4.3 PROJECT INSPECTOR

4.3.1 General

One or more Project Inspectors employed by the District and approved by the Division of the State Architect will be assigned to the Work in accordance with the requirements of Title 24 of the California Code of Regulations. The Inspector(s) duties are as specifically defined in Title 24 Section 4-333 and 4-342 and in DSA IR A-8.

4.3.2 Inspector's Duties and DSA Noted Timelines for Inspection

All Work shall be under the observation of the Inspector. Contractor shall establish a protocol for requesting inspection with Inspector so as to not delay the Work and provide adequate time for the Inspector to perform inspection. If such a protocol is not established ahead of time, Inspector may utilize the time criteria set by Title 24 of 48 hours in advance of submitting form DSA 156 for each new area. The Inspector shall have free access to any or all parts of the Work at any time. The Contractor shall furnish the Inspector such information as may be necessary to keep the Inspector fully informed regarding progress and manner of Work and character of materials. Such observations shall not, in any way, relieve the Contractor from responsibility for full compliance with all terms and conditions of the Contract, or be construed to lessen to any degree the Contractor's responsibility for providing efficient and capable superintendence. The Inspector is not authorized to make changes in the Drawings or Specifications nor shall the Inspector's approval of the Work and methods relieve the Contractor of responsibility for the correction of subsequently discovered defects, or from its obligation to comply with the Contract Documents.

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Inspector shall electronically post DSA required documents on the DSA electronic posting website. It is the Contractor's responsibility to determine the status of posting and determine if all the criteria for sign off of a category of Work on the Project Inspection Card (Form DSA 152) as defined more thoroughly in the most current version of the DSA 152 manual posted on the DSA website.

Inspector may collaborate with Contractor about approval of areas that may be constructed and approved incrementally under the DSA 152 card pursuant to the guidelines of PR-13 at Article 1.17. Inspector shall work with Contractor to present incremental approval proposals to DSA.

4.3.3 Inspector's Authority to Reject or Stop Work

The Inspector shall have the authority to reject Work whenever provisions of the Contract Documents are not being complied with, and Contractor shall instruct its Subcontractors and employees accordingly. In addition, the Inspector may stop any Work that poses a probable risk of harm to persons or property. The Contractor shall instruct its employees, Subcontractors, material and equipment suppliers, etc., accordingly. The absence of any Stop Work Order or rejection of any portion of the Work shall not relieve the Contractor from any of its obligations pursuant to the Contract Documents.

4.3.4 Inspector's Facilities

Within seven (7) days after the notice to proceed, the Contractor shall provide the Inspector with the temporary facilities as required. More specific requirements for the Inspector facilities may be further described under Division 1 of the Specifications.

4.3.5 Testing Times

The District will provide inspection and testing at its cost during the normal eight (8) hour day Monday through Friday (except holidays). Work by the Contractor outside of the normal eight (8) hour day shall constitute an authorization from the Contractor to the District to provide inspection and testing as required outside of the normal eight (8) hour day. Contractor shall provide adequate time for inspections so as to not delay the Work. An advanced timing protocol may be established pursuant to Article 4.3.2. If the Contractor is behind Schedule then it is incumbent on the Contractor to provide advance forecast through look ahead of the anticipated date for inspection so the Inspector may plan their activities so as to not delay the Project. Contractor shall reimburse District for any additional costs associated with inspection and testing (including re-inspection and re-testing) outside the normal eight-hour day and for any retests caused by the Contractor.

It is the Contractor's responsibility to request special inspections with sufficient time so all testing may be timely completed and posted so work may proceed and the Inspector's signature is attached to the Project Inspection Card (Form 152). Specifically, timely request for special inspection under the DSA Verified Report Forms 291 (laboratory), DSA Verified Report Form 292 (Special Inspection), and DSA Verified Report 293 (geotechnical) since DSA requirements under PR 13-01 specifically gives the Special Inspections 14 days to post to the DSA website. Failure to plan and pay (if applicable) for quicker delivery of Special Inspections may be counted as Float, but is not considered Governmental Delay Float under Article 8.1.4.

4.3.6 Special Inspections, Inspections or Tests Out of State, Out of Country or Remote from Project

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If Contractor has a Subcontractor or supplier that requires in plant or special inspections, inspections or tests that are out of the country, out of the state or a distance of more than 200 miles from the Project Site, the District shall provide the Special Inspector or individual performing tests time for inspection and testing during normal work hours. Contractor, however, is responsible for the cost of travel, housing, food, out of area premiums that may be in the Inspector/Testing Agreement with District, or other expenses necessary to ensure proper inspection, special inspection or testing is provided by a DSA Certified Inspector, Special Inspector, or individual performing tests. In some cases all three (DSA Inspector, Special Inspector, and Tester) may be required. In addition, if the DSA Certified Inspector, Special Inspector, or individual performing test has contractual travel clauses or special rates for out of town inspection, Contractor is responsible for all costs associated with the contractual travel costs in addition to all other costs. Arrangements for inspection and/or testing shall be made far enough in advance so as to not delay the Work.

4.4 STOP WORK ORDER

DSA may issue a Stop Work Order, or an Order to Comply, when either (1) the Work proceeds without DSA approval; (2) the Work proceeds without a DSA Inspector of Record, or (3) where DSA determines that the Work is not being performed in accordance with applicable rules and regulations, and would compromise the structural integrity of the Project or would endanger lives. If a Stop Work Order is issued, the Work in the affected area shall cease until DSA withdraws the Stop Work Order. Pursuant to Education Code section 17307.5(b), the District shall not be held liable in any action filed against the District for any delays caused by compliance with the Stop Work Order, except to the extent that an error or omission by the District is the basis for the issuance of the Stop Work Order.

Examples of Stop Work Orders that may be issued by DSA include DSA Bulletin 07-04 and Policy 10-01, the installation of automatic fire sprinkler systems without approved Plans, covering Work that has not been approved by Inspector on DSA Project Inspection Card (Form 152).

4.5 RESPONSIBILITY FOR ADDITIONAL CHARGES INCURRED BY THE DISTRICT FOR PROFESSIONAL SERVICES

If at any time prior to the completion of the requirements under the Contract Documents, the District is required to provide or secure additional professional services (including CM, Inspection, Architect, Engineering and Special Consultant Services) for any reason by any act of the Contractor, the District may seek a Deductive Change Order for any costs incurred for any such additional services, which costs shall be deducted from the next progress payment. A Deductive Change Order shall be independent from any other District remedies and shall not be considered a waiver of any District rights or remedies. If payments then or thereafter due to the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the District. Additional services shall include, but shall not be limited to, the following:

- a. Services made necessary by the default of the Contractor (Article 14 or Article 2.2).
- b. Services made necessary due to the defects or deficiencies in the Work of the Contractor (Article 2.2 and Article 9.6).
- c. Spurious or frivolous RFI's issued that do not conform to the requirements of Article 7.4. Issuance of the same RFI after receiving an answer from the Architect or Engineer

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- d. Review of Schedules that are provided by Contractor that do not Conform with the Requirements of Article 8.
- e. Preparation of a CCD or ICD to correct a Contractor Deficiency, or Contractor Caused Notice of Non-Compliance (See Article 7.3).
- f. Review of Incomplete Shop Drawings or Submittals, including the submission of Piecemeal Shop Drawings or Submittals unless piecemeal Submittals are specifically agreed upon by District (See Article 3.9)
- g. Services required by failure of the Contractor to perform according to any provision of the Contract Documents.
- h. Services in connection with evaluating substitutions of products, materials, equipment, Subcontractors' proposed by the Contractor, and making subsequent revisions to Drawings, Specifications, obtaining DSA approvals, DSA costs for review of CCD's, other governmental agency review costs, and providing other documentation required (except for the situation where the specified item is no longer manufactured or available). (See Article 3.10)
- i. Services for evaluating and processing Claims or Disputes submitted by the Contractor in connection with the Work outside the established Change Order process.
- j. Services required by the failure of the Contractor to prosecute the Work in a timely manner in compliance within the specified time of completion.
- k. Services in conjunction with the testing, adjusting, balancing and start-up of equipment other than the normal amount customarily associated for the type of Work involved.
- l. Services in conjunction with more than one (1) re-review of Submittals of Shop Drawings, Product Data, samples, RFI's etc.

4.6 DISPUTES AND CLAIMS

4.6.1 Decision of Architect

“Disputes” or “Claims” as defined in Article 4.6.9.1 between District and Contractor involving money or time, including those alleging an error or omission by the Architect shall be referred initially to the Architect for action as provided in Article 4.6.2 within ten (10) days after Contractor’s Article 7 request for Change is denied. If there is a CM, the CM shall receive the Dispute and may review and also assemble opinions and documents to assist the Architect. A decision by the Architect, as provided in Article 4.6.5, shall be required as a condition precedent to proceeding with remedies set forth in Article 4.6.9 as to all such matters arising prior to the date Retention Payment Application is due, regardless of whether such matters relate to execution and progress of the Work, or the extent to which the Work has reached Final Completion.

The condition precedent of an Architect decision shall be waived if: (1) the position of Architect is vacant; (2) the Architect has failed to take action required under Article 4.6.5 within the time periods required therein; or (3) the Dispute or Claim relates to a stop notice claim not arising from any extra Change Order or Immediate Change Directive for which approval has not been provided.

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4.6.2 Architect's Review

The Architect (and CM) will review the Dispute and take one or more of the following preliminary actions upon receipt of a Dispute: (1) request additional supporting data from the claimant; (2) submit a schedule to the parties indicating when the Architect expects to take action; (3) reject the Dispute in whole or in part, stating reasons for rejection; (4) recommend approval of the Dispute; or (5) suggest a compromise. The Architect may also, but is not obligated to, notify the Surety, if any, of the nature and amount of the Dispute.

4.6.2.1 *Architectural Immunity.* Architect review of Disputes and Claims shall be impartial and meant to resolve Disputes and Claims. Pursuant to the case, Huber, Hunt & Nichols, Inc. v. Moore (1977) 67 Cal.App.3d 278, the Architect is provided a quasi-judicial immunity for interpreting and deciding Disputes and Claims between the District and Contractor.

4.6.3 Documentation if Resolved

If a Dispute has been resolved, the Architect (and/or CM) will prepare a Change Order or obtain appropriate documentation to document the terms for Board approval.

4.6.4 Actions if Not Resolved

If a Dispute has not been resolved and all documentation requested pursuant to Article 4.6.2 has been provided, the Contractor shall, within ten (10) days after the Architect's initial response, assemble all the documents involved in the Dispute including copies of all back-up documentation of costs and the basis for the Dispute and take one or more of the following actions: (1) modify the initial Dispute; (2) notify the Architect that the initial Dispute stands; or (3) supplement with additional supporting data and re-submit to the Architect under Article 4.6.2.

4.6.5 Architect's Written Decision

If a Dispute has not been resolved after consideration of the foregoing and of other evidence presented by the parties or requested by the Architect, the Architect (or Architect through CM) shall provide a written decision twenty (20) days after compliance with Article 4.6.4. Upon expiration of such time period, the Architect (or Architect through CM) will render to the parties its written decision relative to the Dispute, including any change in the Contract Sum or Contract Time or both. The Architect may also request reasonable additional time to complete Architect's written decision.

If the resolution of the Dispute by the Architect is not satisfactory to the Contractor and copies of all back-up documentation of costs and the basis for the Dispute is fully articulated in a package of material that is complete, the Contractor may then submit a Claim to the District under Article 4.6.9.

4.6.6 Continuing Contract Performance

Pending final resolution of a Dispute or Claim, including, negotiation, mediation, arbitration, or litigation, the Contractor shall proceed diligently with performance of the Contract, and the District shall continue to make any undisputed payments in accordance with the Contract (less any withholdings or offsets). If the Claim is not resolved, Contractor agrees it will neither rescind the Contract nor stop the progress of the work, but Contractor's sole remedy shall be to submit such controversy to determination by a court of competent jurisdiction in the county where the Project is located, after the Project has been completed, and not before.

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4.6.6.1 *District's Option to Submit Individual Disputes to Arbitration during Claims and Disputes Process.* At the District's sole option, in order to more efficiently resolve Claims during the Project and prior to the completion of the Claims Process, pursuant to Government Code section 9201, the District may submit individual Disputes or Claims for binding arbitration and Contractor agrees to the resolution of for each individual Dispute or Claim by an Arbitrator, including resolution of time and delays. If binding arbitration is utilized for individual Disputes or Claims, such resolution is full and final as to that particular Dispute or Claim. THIS INDIVIDUAL DISPUTE ARBITRATION PROCESS IS NOT AN ARBITRATION CLAUSE AND SHALL NOT BE CONSTRUED AS AN AGREEMENT TO ARBITRATE. THIS INDIVIDUAL DISPUTES ARBITRATION PROCESS IS FOR THE SOLE PURPOSE OF STREAMLINING AND RESOLVING DISPUTES OR CLAIMS DURING CONSTRUCTION AND SHALL BE REQUESTED ON SPECIFIC INDIVIDUAL ITEMS BY THE DISTRICT PRIOR TO RETENTION PAYMENT (EVEN IF THERE ARE DEDUCTIONS MADE FROM RETENTION PAYMENT) WHICH REPRESENTS THE FINAL COMPLETION OF THE PROJECT.

- a. If there is no Retention remaining on the Project, individual Disputes initiated prior to Project Final Completion shall continue until a final disposition of the Arbitration or resolution of the individual Claim or Dispute.
- b. No Tolling. The Arbitration process shall not toll the Disputes or Claims process under Article 4.6 or the requirement to submit Claims to Court under Article 4.6.9.5.

4.6.7 Claims for Concealed Trenches or Excavations Greater Than Four Feet Below the Surface

When any excavation or trenching extends greater than four feet below the surface or if any condition involving hazardous substances are encountered:

- a. Immediately upon discovery, The Contractor shall promptly, and before the following conditions are disturbed, notify the District, by telephone and in writing, of the condition except:
 1. If such condition is a hazardous waste condition, Contractor's bid includes removal or disposal of hazardous substances. Material that the Contractor believes may be a material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law. In such case, the notice bulletin procedures of Article 7 apply.
 2. Subsurface or latent physical conditions at the Site differing from those indicated in the Drawings, Specifications, Soils Report, and from Contractor's own investigation under Article 2.1.
 3. 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.

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- b. The District shall investigate the conditions, and if District finds that the conditions do materially so differ, do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a Change Order or Construction Change Document under the procedures described in the Contract.
- c. In the event that a dispute arises between the public entity or District and the Contractor whether the conditions materially differ, involve hazardous waste, or cause a 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.

4.6.8 Dispute Concerning Extension of Time.

If Contractor and District cannot agree upon an extension of time, whether compensable or not, then Contractor must have first completed the procedures set forth in Article 8.4. Upon completion of the procedures set forth under Article 8.4, Contractor must then comply with the requirements in this Article including those set forth under Article 4.6.9.

4.6.9 Claims Procedures

Pursuant to the remedies under Public Contract Code section 9201 and Government Code section 930.2, Contractor, through execution of this Agreement, also agrees to comply with the Claims requirements of Article 4.6 to quickly and efficiently resolve Disputes and Claims. Further, to provide a level of accuracy to the records submitted, the District shall have the right to audit books and records pursuant to Article 13.11 based on the actual costs incurred and to reduce the uncertainty in resolving Disputes and Claims with limited information.

4.6.9.1 *Procedure Applicable to All Claims*

- a. Definition of Claim: A "Claim" is where a Dispute between the parties rises to the level where backup documentation is assembled and provided to the District as a separate demand by the Contractor for: (1) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by the District under the Contract; (2) payment by the District of money or damages arising from Work done by, or on behalf of, the Contractor pursuant to the Contract and payment for which is not otherwise expressly provided for or to which the Contractor is not otherwise entitled to; or (3) an amount of payment disputed by the District. If the Claim is for damages associated with a DSA Stop Work Order, the Contractor shall not be entitled to a request for Compensation, but shall be entitled to utilize Governmental Delay Float (See Article 8.1.4.1.)
- b. Filing Claim Is Not Basis to Discontinue Work: The Contractor shall promptly comply with Work under the Contract or Work requested by the District even though a written Claim has been filed. The Contractor

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and the District shall make good faith efforts to resolve any and all Claims that may arise during the performance of the Work covered by this Contract.

- c. Claim Notification: The Contractor shall within seven (7) calendar days after the written decision of the Architect, or if the time period for Architect's decision has passed under Article 4.6.5, submit a notification in writing sent by registered mail or certified mail with return receipt requested, with the District (and the District's CM) stating clearly the basis for the Claim and including all relevant and required documents. If the notification is not submitted within seven (7) days after the written decision of the Architect or the passage of time under Article 4.6.5, the Contractor shall be deemed to have waived all right to assert the Claim, and the Claim shall be denied. Claims submitted after the Retention Payment date shall also be considered null and void by the District. All Claims shall be reviewed pursuant to Articles 4.6.1 through 4.6.5.

The Formal Notification of Claim must be presented as follows:

- (1) The term "Claim" must be at the top of the page in no smaller than 20 point writing.
 - (2) All documentation submitted pursuant to Article 4.6 to the Architect shall be submitted with the "Claim."
 - (3) A stack of documents, copy of all Project documents, or the submission of random documents shall not constitute an adequate reference to supporting documentation.
 - (4) Any additional or supporting documentation that Contractor believes is relevant should be submitted at this time.
- d. Reasonable Documents to Support Claim: The Contractor shall furnish reasonable documentation to support the Claim. The Contractor shall provide all written detailed documentation which supports the Claim, including but not limited to: arguments, justifications, cost, estimates, Schedule analysis and detailed documentation. The format of the required reasonable documentation to support the Claim shall include, without limitation:
1. Cover letter.
 2. Summary of factual basis of Claim and amount of Claim.
 3. Summary of the basis of the Claim, including the specific clause and section under the Contract under which the Claim is made.
 4. Documents relating to the Claim, including:
 - a. Specifications sections in question.

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- b. Relevant portions of the Drawings
 - c. Applicable Clarifications (RFI's)
 - d. Other relevant information, including responses that were received.
 - e. Contractor Analysis of Claim merit.
 - (a) Contractor's analysis of any Subcontractor vendor Claims that are being passed through.
 - (b) Any analysis performed by outside consultants
 - (c) Any legal analysis that Contractor deems relevant
 - f. Break down of all costs associated with the Claim.
 - g. For Claims relating to time extensions, an analysis and supporting documentation evidencing any effect upon the critical path in conformance with the requirements of Article 8.4 chronology of events and related correspondence.
 - h. Applicable Daily Reports and logs.
 - (a) If the Daily Reports or Logs are not available, lost or destroyed, there shall be a presumption that the lost documentation was unfavorable to the Contractor. See California Civil Jury Instruction 204.
 - i. For Claims involving overhead, cost escalation, acceleration, disruption or increased costs, a full version of job costs reports organized by category of work or Schedule of Values with budget information tracked against actual costs. Any and all supporting back-up data, including the original bid (and associated original unaltered metadata).
 - (a) The metadata and bid information shall be provided confidentially and subject to a protective order to prevent dissemination to other contractors or to the public. However, the bid documentation should remain intact and available for review and inspection in case of this type of increased cost Claim.
 - (b) This data on the bid shall be made available to any District attorneys or experts and shall also be utilized as evidence for any legal proceedings.
 - (c) If the bid documentation is not available, lost or destroyed, there shall be a presumption that the lost bid documentation was unfavorable to the Contractor. See California Civil Jury Instruction 204.
- e. Certification: The Contractor (and Subcontractors, if applicable) shall submit with the Claim a certification under penalty of perjury:

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1. That the Contractor has reviewed the Claim and that such Claim is made in good faith;
 2. Supporting data are accurate and complete to the best of the Contractor's knowledge and belief;
 3. The amount requested accurately reflects the amount of compensation for which the Contractor believes the District is liable.
 4. That the Contractor is familiar with Government Code sections 12650 et seq. and Penal Code section 72 and that false claims can lead to substantial fines and/or imprisonment.
- f. Signature of Certification: If the Contractor is not an individual, the certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.
- g. Upon receipt of a Claim and all supporting documents as required above, the District shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Contractor may, by mutual agreement, extend the time period provided in this paragraph.
- h. If the District needs approval from its governing Board to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing Board does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim sent by registered mail or certified mail, return receipt requested, the District shall have up to three days following the next duly publicly noticed meeting of the governing Board after the 45-day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.
- i. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. If the District fails to issue a written statement, paragraph o below shall apply.
- j. If the Contractor disputes the District's written response, or if the District fails to respond to a Claim issued pursuant to this Article 4.6.9 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the Claim.

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- k. 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 District shall provide the Contractor 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 District 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 District and the Contractor sharing the associated costs equally. The District and Contractor 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 in Article 4.6.9.5.
- l. For purposes of this Article 4.6.9, 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.
- m. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to this Article 4.6.9 shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
- n. This Claims process does not preclude the District from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this Article 4.6.9 does not resolve the parties' Claim. This Claims process does not preclude the District from submitting individual Disputes or Claims to binding arbitration pursuant to Article 4.6.9.4 below.
- o. Failure by the District to respond to a Claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this Article 4.6.9 shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this Article 4.6.9, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.
- p. If a subcontractor or a lower tier subcontractor lacks legal standing to assert a Claim against a District because privity of contract does not exist, the Contractor may present to the District a Claim on behalf of a

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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 District 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 District and, if the Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

- q. Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable.
- r. The Contractor's Claim shall be denied if it fails to follow the requirements of this Article.

4.6.9.2 *District (through CM or District's Agent or Attorney) May Request Additional Information.* Within thirty (30) days of receipt of the Claim and the information under this Article, the District may request in writing any additional documentation supporting the Claim or documentation relating to defenses to the Claim which the District may assert. If additional documents are required, the time in which the Claim is evaluated may be extended by a reasonable time so the Claim and additional documents may be reviewed.

4.6.9.3 *Claims Procedures in Addition to Government Code Claim.* Nothing in the Claims procedures set forth in this Article 4 of the General Conditions shall act to waive or relieve the Contractor from meeting the requirements set forth in Government Code section 900 et seq.

4.6.9.4 *Binding Arbitration of Individual Claim Issues.* To expedite resolution of Claims pursuant to Public Contract Code section 9201, at the District's sole option, the District may submit individual Claims to Arbitration prior to Retention Payment consistent with the requirements of Article 4.6.6.1.

4.6.9.5 *Resolution of Claims in Court of Competent Jurisdiction.* If Claims are not resolved under the procedure set forth and pursuant to Article 4.6.9, such Claim or controversy shall be submitted to a court in the County of the location of the Project after the Project has been completed, and not before.

4.6.9.6 *Warranties, Guarantees and Obligations.* The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by the General Conditions and amendments thereto; and all of the rights and remedies available to District and Architect thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Article will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

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ARTICLE 5 SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1 Subcontractual Relations Bound to Same Contract Terms at General Contractor

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the same obligations and responsibilities, assumed by Contractor pursuant to the Contract Documents. Each subcontract agreement shall preserve and protect the rights of the District and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound. Upon written request of the Subcontractor, the Contractor shall identify to the Subcontractor the terms and conditions of the proposed subcontract agreement, which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.1.2 Subcontractor Licenses and DIR Registration

All Subcontractors shall be properly licensed by the California State Licensing Board. All Subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with the California Department of Industrial Relations and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project. No portion of the Work is permitted to be performed by a Subcontractor of any tier unless the subcontractor is properly registered with DIR. Any Subcontractors of any tier not properly registered with DIR shall be substituted in accordance with Labor Code section 1771.1.

5.1.3 Substitution of Subcontractor

Substitution of Subcontractors shall be permitted only as authorized under Public Contract Code §§ 4107 et seq. Any substitutions of Subcontractors shall not result in any increase in the Contract Price or result in the granting of any extension of time for the completion of the Project.

5.1.4 Contingent Assignment of Subcontracts and Other Contracts

Each subcontract, purchase order, vendor contract or agreement for any portion of the Work is hereby assigned by the Contractor to the District provided that:

- a. Such assignment is effective only after Termination of this Contract with the Contractor by the District as provided under Article 14 and only for those subcontracts and other contracts and agreements that the District accepts by notifying the Subcontractor or Materialman (as may be applicable) in writing; and

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- b. Such assignment is subject to the prior rights of the Surety(ies) obligated under the Payment Bond and Performance Bond.
- c. The Contractor shall include adequate provisions for this contingent assignment of subcontracts and other contracts and agreements in each such document.

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ARTICLE 6 CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS

6.1 DISTRICT'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 Separate Contracts.

6.1.1.1 District reserves the right to let other contracts in connection with this Work. Contractor shall afford other contractors reasonable opportunity for (1) introduction and storage of their materials; (2) access to the Work; and (3) execution of their work. Contractor shall properly connect and coordinate its work with that of other Contractors.

6.1.1.2 If any part of Contractor's Work depends on proper execution or results of any other contractor, the Contractor shall inspect and within seven (7) days or less, report to Architect, in writing, any defects in such work that render it unsuitable for proper execution of Contractor's Work. Contractor will be held accountable for damages to District for that Work which it failed to inspect or should have inspected. Contractor's failure to inspect and report shall constitute its acceptance of other contractors' Work as fit and proper for reception of its Work, except as to defects which may develop in other contractors' work after execution of Contractor's work.

6.1.1.3 To ensure proper execution of its subsequent Work, Contractor shall measure and inspect Work already in place and shall at once report to the Architect in writing any discrepancy between executed Work as built and the Contract Documents.

6.1.1.4 Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by District in prosecution of the Project and the potential impact of such Work on the Baseline Schedule or Schedule updates.

6.1.1.5 Nothing herein contained shall be interpreted as granting to Contractor the exclusive occupancy at the site of Project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project Site. If execution of any contract by the District is likely to cause interference with Contractor's performance of this Contract, once Contractor provides District timely written notice and identifies the Schedule Conflict, District shall decide which contractor shall cease work temporarily and which contractor shall continue, or whether Work can be coordinated so that contractors may proceed simultaneously.

6.1.1.6 District shall not be responsible for any damages suffered or extra costs incurred by Contractor resulting directly or indirectly from award or performance or attempted performance of any other contract or contracts at the Project necessary for the performance of the Project (examples include Electrical Utility Contractor, separate offsite contractor, a separate grading contractor, furniture installation etc.)

CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES BASED ON DOCUMENTATION PROVIDED WITH THIS BID OR DISCUSSED AT THE JOB WALK. CONTRACTOR HAS MADE ALLOWANCE FOR ANY DELAYS OR DAMAGES WHICH MAY ARISE FROM COORDINATION WITH CONTRACTORS REQUIRED FOR OTHER PHASES. IF ANY DELAYS SHOULD ARISE FROM ANOTHER

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CONTRACTOR WORKING ON A DIFFERENT PHASE, CONTRACTOR'S SOLE REMEDY FOR DAMAGES, INCLUDING DELAY DAMAGES, SHALL BE AGAINST THE CONTRACTOR WHO CAUSED SUCH DAMAGE AND NOT THE DISTRICT. CONTRACTOR SHALL PROVIDE ACCESS TO OTHER CONTRACTORS FOR OTHER PHASES AS NECESSARY TO PREVENT DELAYS AND DAMAGES TO OTHER CONTRACTORS WORKING ON OTHER PHASES OF CONSTRUCTION.

6.1.2 District's Right to Carry Out the Work

(See Article 2.2)

6.1.3 Designation as Contractor

When separate contracts are awarded to contractors on the Project Site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate District/Contractor Agreement.

6.1.4 District Notice to the Contractor of Other Contractors

The Contractor shall have overall responsibility to reasonably coordinate and schedule Contractor's activities with the activities of the District's forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their construction schedules when:

- a. Notice is provided in the Contract Documents of other scope of Work,
- b. In the case where there is known Work to be performed by other Contractors
- c. For outside contractors hired by utilities
- d. Where the Contract Document provides "Work by Others" or "By Others"
- e. Where specifically noted during the Pre-Bid Conference
- f. Where specifically noted in the Mandatory Job Walk
- g. By CO or ICD,
- h. With respect to the installation of:
 1. Furniture,
 2. Electronics and networking equipment,
 3. Cabling,
 4. Low voltage,
 5. Off-site work,
 6. Grading (when by a separate contractor),

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7. Environmental remediation when excluded by the Contract Documents (i.e. asbestos, lead or other hazardous waste removal)
8. Deep cleaning crews,
9. Commissioning and testing,
10. Keying and re-keying,
11. Programming

6.1.4.1 Exception where no Coordination is Required on the Part of the Contractor for Turn Key Operations. If the Contractor has specifically outlined a “Turn Key” or “Complete Delivery” of a final completed operational school in writing as part of the Baseline Schedule..

6.1.4.2 The Contractor shall make any revisions to the Baseline Schedule (or Schedule Update) and Contract Sum deemed necessary after a joint review and mutual agreement. The Baseline Schedule (or Schedule Update) shall then constitute the Schedules to be used by the Contractor, separate contractors, and the District until subsequently revised. Additionally, Contractor shall coordinate with Architect, District, and Inspector to ensure timely and proper progress of Work.

6.2 CONSTRUCTIVE OWNERSHIP OF PROJECT SITE AND MATERIAL

Upon commencement of Work, the Contractor becomes the constructive owner of the entire site, improvements, material and equipment on Project site. Contractor must ensure proper safety and storage of all materials and assumes responsibility as if Contractor was the owner of the Project site. All risk of loss or damage shall be borne by Contractor during the Work until the date of Completion. As constructive owner of the Project site, Contractor must carry adequate insurance in case of calamity and is not entitled to rely on the insurance requirements as set forth in this Agreement as being adequate coverage in case of calamity.

6.3 DISTRICT’S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors, and the District as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Article 3.12, the District may clean up and allocate the cost among those it deems responsible.

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ARTICLE 7 CHANGES IN THE WORK

7.1 CHANGES

7.1.1 No Changes Without Authorization

There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order, Change Order Request, Immediate Change Directive, or order by the Architect for a minor change in the Work as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's Governing Board or designated representative with delegated authority (subject to Board ratification) has authorized the same and the cost thereof approved in writing by Change Order or executed Construction Change Document. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted in writing in the Change Order. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications. Notwithstanding anything to the contrary in this Article 7, all Change Orders shall be prepared and issued by the Architect and shall become effective when executed by the District's Governing Board, the Architect, and the Contractor.

Should any Change Order result in an increase in the Contract Price, the cost of such Change Order shall be agreed to, in writing, in advance by Contractor and District and be subject to the monetary limitations set forth in Public Contract Code section 20118.4 (Please check with the District since there are different interpretations of the limitations of Public Contract Code section 20118.4 depending on the County the Project is located). In the event that Contractor proceeds with any change in Work without first notifying District and obtaining the Architect's and District's consent to a Change Order, Contractor waives any Claim of additional compensation for such additional work and Contractor takes the risk that a Notice of Non-Compliance may issue, a critical path Project delay may occur, and the Contractor will also be responsible for the cost of preparation and DSA CCD review fees for a corrective DSA approved Construction Change Document.

CONTRACTOR UNDERSTANDS, ACKNOWLEDGES, AND AGREES THAT THE REASON FOR THIS NOTICE REQUIREMENT IS SO THAT DISTRICT MAY HAVE AN OPPORTUNITY TO ANALYZE THE WORK AND DECIDE WHETHER THE DISTRICT SHALL PROCEED WITH THE CHANGE ORDER OR ALTER THE PROJECT SO THAT SUCH CHANGE IN WORK BECOMES UNNECESSARY AND TO AVOID THE POSSIBLE DELAYS ASSOCIATED WITH THE ISSUANCE OF A NOTICE OF NON-COMPLIANCE.

7.1.2 Notices of Non-Compliance

Contractor deviation or changes from approved Plans and Specifications may result in the issuance of a Notice of Non-Compliance (See DSA Form 154). Contractor is specifically notified that deviations from the Plans and Specifications, whether major or minor, may result in the requirement to obtain a DSA Construction Change Document to correct the Notice of Non-Compliance. (See Article 7.3.1 for Definition of CCD). In some cases, the lack of a DSA approved CCD AND verification from the Inspector that a Notice of Non-Compliance has been corrected may result in a critical path delay to the next stage of Work on the Project. Specifically, a deviation from approved Plans and Specifications may

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prevent approval of the category of Work listed in the DSA 152 Project Inspection Card. Any delays that are caused by the Contractor's deviation from approved Plans and Specifications shall be the Contractor's responsibility.

7.1.3 Architect Authority

The Architect will have authority to order minor changes in the Work that do not involve DSA Approval not involving any adjustment in the Contract Sum, or an extension of the Contract Time.

7.2 **CHANGE ORDERS ("CO")**

A CO is a written instrument prepared by the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, and the Architect stating their agreement upon all of the following:

- a. A description of a change in the Work;
- b. The amount of the adjustment in the Contract Sum, if any; and
- c. The extent of the adjustment in the Contract Time, if any.

A CO may be comprised of ICD's, Response to RFP's and COR's

7.3 **CONSTRUCTION CHANGE DOCUMENT (CCD Category A, and CCD Category B) and IMMEDIATE CHANGE DIRECTIVE (ICD)**

7.3.1 Definitions

7.3.1.1 *Construction Change Document (CCD)*. A Construction Change Document is a DSA term that is utilized to address changes to the DSA approved Plans and Specifications. There are two types of Construction Change Documents. (1) DSA approved CCD Category A for Work affecting structural, access compliance or fire/ life safety of the Project which will require a DSA approval; and, (2) CCD Category B for work NOT affecting structural safety, access compliance or fire/ life safety that will not require a DSA approval (except to confirm that no approval is required). Both CCD Category A and Category B shall be set forth in DSA Form 140 and submitted to DSA as required.

7.3.1.2 *Immediate Change Directive (ICD)*. An Immediate Change Directive is a written order to the Contractor prepared by the Architect and signed by the District (and CM if there is a CM on the Project) and the Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The District may by ICD, without invalidating the Contract, direct immediate changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions within. If applicable, the Contract Sum and Contract Time will be adjusted accordingly.

In the case of an Immediate Change Directive being issued, Contractor must commence Work immediately or delays from failure to perform the ICD shall be the responsibility of Contractor and the failure to move forward with Work immediately shall also be grounds for Termination under Article 14.

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An ICD does not automatically trigger an Article 7.6 Dispute or Claim. Contractor must timely follow the procedures outlined at Article 7.6 and 4.6 where applicable.

Refer to Division 1 and Supplementary General Conditions for a copy of the proposed Immediate Change Directive form.

7.3.2 Use to Direct Change

An ICD shall be used to move work forward immediately and to avoid delay. In some cases, an ICD shall be issued in the absence of agreement on the terms of a CO, COR, or RFP. A copy of an ICD form is provided in the Supplementary General Conditions and Division 1. The anticipated not to exceed price for the Work will be inserted into the ICD. In the case of an ICD issued to correct Contractor Deficiencies or to correct a Contractor caused Notice of Non-Compliance, the ICD may be issued with \$0 and no additional time. Contractor may prepare a COR associated with the ICD pursuant to Article 7. However, Contractor shall proceed with all Work required under an Approved ICD immediately upon issuance. Failure to proceed with the Work under an ICD shall be grounds for Termination for Cause under Article 14 or take over the Work under Article 2.2.

If adequate time exists, an ICD may be subject of an RFP for pricing and determination if any time that may be required. However, if an RFP is not completed, Contractor shall immediately commence Work when an ICD is issued. If the RFP is incomplete, it may still be completed to be submitted for pricing purposes as long as the RFP is submitted within the timeline provided by the RFP, or within 10 days following issuance of the ICD.

7.3.3 ICD Issued Over a Notice of Non-Compliance or to Cover Work Subject to a DSA 152 Sign Off

In some cases, an ICD shall be for the purpose of proceeding with Work to keep the Project on Schedule and as an acknowledgement by the District that Contractor is proceeding with Work contrary to a Notice of Non-Compliance, prior to issuance of a DSA approved CCD Category A, or to direct the covering of Work which has not yet received a DSA 152 Inspection Approval to move forward.

7.3.3.1 Contractor Compliance with all Aspects of an ICD. Contractor is to undertake the ICD and comply with all aspects of the Work outlined in the ICD. Inspector is to inspect the Work pursuant to the ICD. Failure to follow the ICD may result in deduction of the ICD Work under Article 2.2 or Termination of the Contractor pursuant to Article 14.

7.3.3.2 Exception in the Case of DSA Issued Stop Work Order. Contractor must proceed with an ICD even if a CCD has not been approved by DSA except in the case of a DSA issued Stop Work Order. If a DSA Stop Work Order is issued, Contractor must stop work and wait further direction from the District.

7.3.3.3 ICD Due to Contractor Deficiency or Contractor Caused Notice of Non-Compliance. If an ICD is issued to correct a Contractor Deficiency or a Contractor caused notice of Non-Compliance, Contractor specifically acknowledges responsibility for all consequential damages associated with the Contractor Deficiency or Contractor caused Notice of Non-Compliance and all consequential damages and costs incurred to correct the deficiency under Article 4.5

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7.4 REQUEST FOR INFORMATION (“RFI”)

7.4.1 Definition

A RFI is a written request prepared by the Contractor requesting the Architect to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the Drawings or Specifications, or to address problems which have arisen under field conditions.

7.4.1.1 A RFI shall not be used as a vehicle to generate time extensions.

7.4.1.2 Resubmission of the same or similar RFI is not acceptable. RFI’s that are similar should be addressed in Project meetings where the requestor (Contractor, Subcontractor or vendor) is able to address the particular issue with the Architect or Engineer and a resolution addressed in the minutes.

7.4.1.3 A RFI response applicable to a specific area cannot be extended to other situations unless specifically addressed in writing within the RFI or in a separate RFI.

7.4.1.4 RFI’s should provide a proposed solution and should adequately describe the problem that has arisen.

7.4.2 Scope

The RFI shall reference all the applicable Contract Documents including Specification section, detail, page numbers, Drawing numbers, and sheet numbers, etc. The Contractor shall make suggestions and interpretations of the issue raised by the RFI. An RFI cannot modify the Contract Cost, Contract Time, or the Contract Documents.

7.4.3 Response Time

The Architect must respond to a RFI within a reasonable time after receiving such request. If the Architect’s response results in a change in the Work, then such change shall be effected by a written CO, COR RFP or ICD, if appropriate. If the Architect cannot respond to the RFI within a reasonable time, the Architect shall notify the Contractor, with a copy to the Inspector and the District, of the amount of time that will be required to respond.

7.4.4 Costs Incurred

The Contractor shall be responsible for any costs incurred for professional services as more fully set forth in Article 4.5, which shall be subject to a Deductive Change Order, if an RFI requests an interpretation or decision of a matter where the information sought is equally available to the party making such request. District, at its sole discretion, shall issue a Deductive Change Order to Contractor for all such professional services arising from this Article.

7.5 REQUEST FOR PROPOSAL (“RFP”)

7.5.1 Definition

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A RFP is a written request prepared by the Architect (and/or CM) requesting the Contractor to submit to the District and the Architect an estimate of the effect of a proposed change on the Contract Price and (if applicable) the Contract Time. If Architect issues a Bulletin, the Changed items in the Bulletin shall be addressed as an RFP and all responses shall be prepared to a Bulletin as addressed in this Article 7.5. A form RFP is included in the Division 1 documents.

7.5.2 Scope

A RFP shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns required by Article 7.7. The Contractor shall not be entitled to any Additional Compensation for preparing a response to an RFP, whether ultimately accepted or not.

7.5.3 Response Time

Contractor shall respond to an RFP within ten (10) days or the time period otherwise set forth in the RFP.

7.6 CHANGE ORDER REQUEST (“COR”)

7.6.1 Definition

A COR is a written request prepared by the Contractor supported by backup documentation requesting that the District and the Architect issue a CO based upon a proposed change, cost, time, or cost and time that may be incurred on the Project or arising from an RFP, ICD, or CCD.

7.6.2 Changes in Price

A COR shall include breakdowns per Article 7.7 to validate any change in Contract Price due to proposed change or Claim.

7.6.3 Changes in Time

A COR shall also include any additional time required to complete the Project only if the delay is a critical path delay. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in Article 8. A schedule fragnet showing the time delay must be submitted with the COR. Any changes in time will be granted only if there is an impact to the critical path. If Contractor fails to request a time extension in a COR, then the Contractor is thereafter precluded from requesting or claiming a delay.

7.7 COST OF CHANGE ORDERS

7.7.1 Scope

Within ten (10) days after a request is made for a change that impacts the Contract Sum as defined in Article 9.1, the critical path, or the Contract Time as defined in Article 8.1.1, the Contractor shall provide the District and the Architect, with a written estimate of the effect of the proposed CO upon the Contract Sum and the actual cost of construction, which shall include a complete itemized cost breakdown of all labor and material showing actual quantities, hours, unit prices, and wage rates required for the change, and the effect upon the Contract Time of such CO. Changes may be made by District by

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an appropriate written CO, or, at the District's option, such changes shall be implemented immediately upon the Contractor's receipt of an appropriate written Construction Change Document.

District may, as provided by law and without affecting the validity of this Agreement, order changes, modification, deletions and extra work by issuance of written CO or CCD from time to time during the progress of the Project, Contract Sum being adjusted accordingly. All such Work shall be executed under conditions of the original Agreement except that any extension of time caused thereby shall be adjusted at time of ordering such change. District has discretion to order changes on a "time and material" basis with adjustments to time made after Contractor has justified through documentation the impact on the critical path of the Project.

7.7.1.1 *Time and Material Charges.* If the District orders Work on a "time and material" basis, timesheets shall be signed daily by the Inspector or District Representative at or near the time the Work is actually undertaken and shall show the hours worked, and the Work actually completed. No time sheets shall be signed the next day. A copy shall be provided to the Person signing the document at the time the document is signed, but not before 10 am the following day.

7.7.2 Determination of Cost

The amount of the increase or decrease in the Contract Price from a CO or COR, if any, shall be determined in one or more of the following ways as applicable to a specific situation:

- a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. If an agreement cannot be reached within fifteen (15) days after submission and negotiation of Contractor's proposal, Contractor may submit pursuant to Article 7.7.3. Submission of sums which have no basis in fact are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.);
 1. If the District objects to 7.7.2(a) as a method for submission due to inaccuracies in the submitted amount, overstatement of manpower or time required to perform the CO, or unreliability of the data provided, the District may either have the Architect or a professional estimator determine the cost for the CO, and the applicable time extension, or the Contractor shall utilize Article 7.7.2(d) or 7.7.3.
 2. Once the District provides a written objection to use of Article 7.7.2(a) due to unreliability of the estimated price, the Contractor shall no longer utilize mutual acceptance of a lump sum as a method for submission of CO's and shall provide a breakdown of estimated or actual costs pursuant to Article 7.7.2(d) or 7.7.3
- b. By unit prices contained in Contractor's original bid and incorporated in the Project documents or fixed by subsequent agreement between District and Contractor;
- c. Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee. However, in the case of disagreement, Contractor must utilize the procedure under Article 7.7.3; or

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d. By cost of material and labor and percentage of overhead and profit. If the value is determined by this method the following requirements shall apply:

1. *Basis for Establishing Costs*

- (1) Labor will be the cost for wages prevailing locally for each craft or type of workers at the time the extra Work is done, plus employer payments of payroll taxes and workers compensation insurance (exclude insurance costs as part of the overhead and profit mark-up), health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. In no case shall the total labor costs exceed the applicable prevailing wage rate for that particular classification. The use of a labor classification which would increase the extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.
- (2) Materials shall be at invoice or lowest current price at which such materials are locally available and delivered to the Site in the quantities involved, plus sales tax, freight, and delivery. The District reserves the right to approve materials and sources of supply or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the District.
- (3) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$250 or less.

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies or distributors at the time the Work is performed. Rates applied shall be appropriate based on actual equipment need and usage. Monthly, weekly or other extended use rates that results in the lowest cost shall be applied if equipment is used on site for extended periods.

The rental rates paid 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.

Necessary loading and transportation costs for equipment used on the extra Work shall be included. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the District than holding it at the Work Site, it shall be

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returned unless the Contractor elects to keep it at the Work Site at no expense to the District.

All equipment shall be acceptable to the Inspector, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer’s ratings and modifications shall be used to classify equipment, and equipment shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

If tool and equipment charges are part of a Dispute, Claim, or Appeal, the District reserves the right to utilize actual costs for tools and equipment or a depreciation rate for equipment based on audit finding under Article 13.11 and deduct any rental charges that exceed actual or depreciated costs.

- e. Other Items. The District may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required by the Work, and which are of a type not ordinarily available from the Contractor or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.
- f. Invoices. Vendors’ invoices for material, equipment rental, and other expenditures shall be submitted with the COR. If the request for payment is not substantiated by invoices or other documentation, the District may establish the cost of the item involved at the lowest price which was current at the time of the Daily Report.
- g. Overhead. Overhead, including direct and indirect costs, shall be submitted with the COR and include: field overhead, home office overhead, off-site supervision, CO preparation/negotiation/research, time delays, Project interference and disruption, additional guaranty and warranty durations, on-site supervision, additional temporary protection, additional temporary utilities, additional material handling costs, liability and property damage insurance, and additional safety equipment costs.

7.7.3 Format for COR or CO’s

The following format shall be used as applicable by the District and the Contractor to communicate proposed additions to the Contract. All costs submitted shall be actual costs and labor shall be unburdened labor. Refer to Division 1 for a copy of the Construction Change Order form.

	<u>EXTRA</u>	<u>CREDIT</u>
(a) Material (attach itemized quantity and unit cost plus sales tax)	_____	_____
(b) Labor Not to Exceed Applicable Prevailing Wage Rates (attach itemized hours and rates)	_____	_____

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		<u>EXTRA</u>	<u>CREDIT</u>
(c)	Equipment (attach invoices)	_____	_____
(d)	Subtotal	_____	_____
(e)	If Subcontractor performed work, add Subcontractor's overhead and profit to portions performed by Subcontractor, not to exceed 10% of item (d).	_____	_____
(f)	Subtotal	_____	_____
(g)	Contractor's Overhead and Profit: Not to exceed 10% of Item (d) if Contractor performed the work. No more than 5% of Item (d) if Subcontractor performed the work. If work was performed by Contractor and Subcontractors, portions performed by Contractor shall not exceed 10% of Item (d), and portions performed by Subcontractor shall not exceed 10% of Item (d).	_____	_____
(h)	Subtotal	_____	_____
(i)	Bond not to exceed one percent (1%) of Item (h)	_____	_____
(k)	TOTAL	_____	_____
(l)	Time/ Days	_____	_____

The undersigned Contractor approves the foregoing Change Order or Immediate Change Directive as to the changes, if any, and the Contract price specified for each item and as to the extension of time allowed, if any, for completion of the entire Work on account of said Change Order or Immediate Change Directive, and agrees to furnish all labor, materials and service and perform all Work necessary to complete any additional Work specified therein, for the consideration stated herein. It is understood that said Change Order or Immediate Change Directive shall be effective when approved by the Governing Board of the District.

It is expressly understood that the value of such extra Work or changes, as determined by any of the aforementioned methods, expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages or time extensions not included are deemed waived.

The Contractor expressly acknowledges and agrees that any change in the Work performed shall not be deemed to constitute a delay or other basis for claiming additional compensation based on theories including, but not limited to, acceleration, suspension or disruption to the Project.

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7.7.3.1 *Adjustment for Time and Compensable Delay.* A CO shall also include any additional time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in Article 8 of the General Contract. A schedule fragnet showing the time delay must be submitted with the CO. Any changes in time will be granted only if there is an impact to the critical path. If Contractor fails to request a time extension in a CO, then the Contractor is thereafter precluded from requesting or claiming a delay.

7.7.4 Deductive Change Orders

All Deductive Change Order(s) must be prepared utilizing the form under Article 7.7.3 (a) – (d) only, setting forth the actual costs incurred. Except in the case of an Article 2.2 or 9.6 Deductive Change Order where no mark-up shall be allowed, Contractor will be allowed a maximum of 5% total profit and overhead.

For unilateral Deductive Change Orders, or where credits are due from Contractor for Allowances, Deductive Items, Inspection, Damage, DSA CCD review costs, Architect or Inspector costs for after hours or corrective services, Work removed from the Agreement under Article 2.2 or Article 9.6, there shall be no mark-up.

District may, any time after a Deductive Change Order is presented to Contractor by District for items under Article 2.2 or Article 9.6 or if there is disagreement as to the Deductive Change Order, issue a unilateral Deductive Change Order on the Project and deduct the Deductive Change Order from a Progress Payment, Final Payment, or Retention.

7.7.5 Discounts, Rebates, and Refunds

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor's cost in determining the actual cost of construction for purposes of any change, addition, or omissions in the Work as provided herein. All CO's are subject to Audit under Article 13.11 for discounts, rebates and refunds.

7.7.6 Accounting Records

With respect to portions of the Work performed by CO's and CCD's on a time-and-materials, unit-cost, or similar basis, the Contractor shall keep and maintain cost-accounting records in a format consistent with accepted accounting standards and satisfactory to the District, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents.

Any time and material charges shall require Inspector's signature on time and material cards showing the hours worked and the Work actually completed. (See Article 7.7.1.1)

7.7.7 Notice Required

If the Contractor desires to initiate a Dispute for an increase in the Contract Price, or any extension in the Contract Time for completion, Contractor shall notify the applicable party responsible for

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addressing the Dispute or Claim pursuant to Article 4.6. No Claim or Dispute shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such Claim shall be authorized by a CO.

7.7.8 Applicability to Subcontractors

Any requirements under this Article 7 shall be equally applicable to CO's, COR's or ICD's issued to Subcontractors by the Contractor to the same extent required by the Contractor.

7.7.9 Alteration to Change Order Language

Contractor shall not alter or reserve time in COR's, CO's or ICD's. Contractor shall execute finalized CO's and proceed under Article 7.7.7 and Article 4.6 with proper notice. If Contractor intends to reserve time without an approved CPM schedule prepared pursuant to Article 8 or without submitting a fragnet showing delay to critical path, then Contractor may be prosecuted pursuant to the False Claim Act.

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ARTICLE 8 TIME AND SCHEDULE

8.1 DEFINITIONS

8.1.1 Contract Time

Contractor shall perform and reach Substantial Completion (See Article 1.1.46) within the time specified in the Agreement Form. Moreover, Contractor shall perform its Work in strict accordance with the Project Milestones in the Contract Documents and shall proceed on a properly developed and approved Baseline Schedule, which represents the Contractor's view of the practical way in which the Work will be accomplished. Note that Contract Time includes and incorporates all Float and other Baseline inclusions as noted in Article 8.3.2.1 and as otherwise specifically noted in Article 8.

8.1.2 Notice to Proceed

District may give a Notice to Proceed within ninety (90) days of the award of the bid by District. Once Contractor has received the notice to proceed, Contractor shall complete the Work in the period of time referenced in the Contract Documents.

In the event that District desires to postpone the giving of the Notice to Proceed beyond this three-month period, it is expressly understood that with reasonable notice to the Contractor, the giving of the date to proceed may be postponed by District. It is further expressly understood by Contractor, that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the giving of the notice to proceed

If the Contractor believes that a postponement will cause a hardship to Contractor, Contractor may terminate the Contract with written notice to District within 10 days after receipt by Contractor of District's notice of postponement. It is further understood by Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and the grounds for notification and hardship shall be subject to Audit pursuant to Article 13.11. Should Contractor terminate the Contract as a result of a notice of postponement, District may award the Contract to the next lowest responsible bidder.

8.1.3 Computation of Time

The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

8.1.4 Float

Float is time the total number of days an activity may be extended or delayed without delaying the Completion Date shown in the schedule. Float will fall into three categories: (1) Rain Days; (2) Governmental Delays; and, (3) Project Float. Project Float and Rain Days are owned by the Project and may be utilized as necessary for critical path delays once the days become available for consumption (i.e. the Rain Day arrives and is not utilized since rain did not occur or Work was performed on the interior of a building). However, Governmental Delay float shall not be utilized for purposes other than

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to address critical path delays that arise due to approvals, Inspector approvals or verifications on governmental forms.

8.1.4.1 *Governmental Delay Float.* It is anticipated that there will be governmental generated delays. Specific to DSA approvals, it is anticipated that no less than twelve (12) days per calendar year shall be set aside as Governmental Float to be utilized on critical path delays. A pro-rated number of days shall be calculated based on length of Contract Time. (For example, a two (2) year Contract Time shall require twenty-four (24) days of Governmental Float. If the Contract Time is 182 days, then the Contract Time shall require six (6) days of Governmental Float) This Governmental Delay float must be incorporated into the schedule and should be incorporated in each critical activity as Contractor deems fit. Specifically, major categories of Work under the DSA 152 (Project Inspection Card) should be allocated Governmental Delay Float at the Contractor's discretion. Governmental Delay Float on the Project may exceed 12 days per one (1) year period, but Contractor is required to include not be less than 12 days of Governmental Delay Float during each one (1) year period.

Contractor's failure to establish a protocol for requesting inspections is not grounds to utilize Governmental Delay Float. As noted in Article 3.1.4, 48 hours advance notice of commencing Work on a new area is required after submitting form DSA 156 and under PR 13-01 Special Inspection reports are not required to be posted until at least 14 days after the Work was inspected. Failure to plan, and pay (if applicable) for quicker delivery of Special Inspections is not Governmental Delay Float under Article 8.1.4.1. If Governmental Delay Float is not utilized, this float is carried through to other DSA 152 categories of inspection and consumed over the course of the Project

Governmental Delay Float may be utilized for a DSA Stop Work Order regardless of fault as defined under Education Code section 17307.5(b).

8.1.4.2 *Inclement Weather (Rain Days).* The Contractor will only be allowed a time extension for unusually severe weather if it results in precipitation or other conditions which in the amount, frequency, or duration is in excess of the norm at the location and time of year in question as established by NOAA weather data. No less than 22 calendar days for each calendar year for Southern California will be allotted for in the Contractor's schedule for each winter weather period or carried at the end of the schedule as Rain Float. Float for weather days in other geographical regions shall be adjusted based on NOAA weather data for the geographical location. Contractor has anticipated all the days it takes to dry out and re-prepare areas that may be affected by weather delays which extend beyond the actual weather days. The weather days shall be shown on the schedule and if not used will become float for the Project's use. The Contractor will not be allowed a day-for-day weather delay for periods noted as float in the Schedule. The Contractor is expected to work seven (7) days per week (if necessary, irrespective of inclement weather), to maintain access, and to protect the Work under construction from the effects of inclement weather. Additional days beyond the NOAA shall be considered under the same criteria that weather days are granted below.

A Rain Day shall be granted by Architect or CM if the weather prevents the Contractor from beginning Work at the usual daily starting time, or prevents the Contractor from proceeding with seventy-five (75%) of the normal labor and equipment force towards completion of the day's current controlling item on the accepted schedule for a period of at least five hours, and the crew is dismissed as a result thereof, the Architect will designate such time as unavoidable delay and grant one (1) critical path activity calendar-day extension if there is no available float for the calendar year.

8.1.4.3 *Project Float.* The Contractor may determine some activities require a lesser duration than allocated and may set aside float in the Project Schedule. There shall be no early

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completion. Instead, to the extent float is either addressed at the end of the Project or throughout each category of critical path work, Project float may be used as necessary during the course of the Project and allocated on a first, come first serve basis. However, the use of float does not extend to Governmental Delay Float, which shall only be used for Governmental Delays.

8.2 HOURS OF WORK

8.2.1 Sufficient Forces

Contractors and Subcontractors shall continuously furnish sufficient forces to ensure the prosecution of the Work in accordance with the Construction Schedule.

8.2.2 Performance During Working Hours

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

8.2.3 Costs for After Hours Inspections

If the Work done after hours is required by the Contract Documents, a Recovery Schedule, or as a result of the Contractor's failure to plan, and inspection must be conducted outside the Inspector's regular working hours, the costs of any after hour inspections, shall be borne by the Contractor.

If the District allows the Contractor to do Work outside regular working hours for the Contractor's convenience, the costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and a Deductive Change Order shall be issued from the next Progress Payment.

If the Contractor elects to perform Work outside the Inspector's regular working hours, costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and a Deductive Change Order from the next Progress Payment as a Deductive Change Order.

8.3 PROGRESS AND COMPLETION

8.3.1 Time of the Essence

Time limits stated in the Contract Documents are of the essence to the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

8.3.2 Baseline Schedule Requirements

8.3.2.1 *Timing:* Within ten (10) calendar days after Notice to Proceed, Contractor shall submit a practical schedule showing the order in which the Contractor proposes to perform the Work, and the dates on which the Contractor contemplates starting and completing the salient categories of the Work. This first schedule which outlines the Contractor's view of the practical way in which the Work will be accomplished is the Baseline Schedule. If the Contractor Fails to submit the Baseline

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Schedule within the ten (10) days noted, then District may withhold processing and approval of progress payments pursuant to Article 9.4 and 9.6.

8.3.2.2 *District Review and Approval:* District, Architect and CM will review both a paper and electronic copy of Baseline Schedule and may provide comments as noted in this Article and either approve or disapprove the Baseline Schedule. All Schedules shall be prepared using an electronic scheduling program acceptable to District. All Schedules shall be delivered in an electronic format usable by the District. All logic ties and electronic information shall be included in the electronic copy of the Baseline Schedule that is delivered to the District.

8.3.2.3 *Schedule Must Be Within the Given Contract Time.* The Baseline Schedule shall not exceed time limits set forth in the Contract Documents and shall comply with all of the scheduling requirements as set forth in the Specifications and Contract Documents.

8.3.2.4 *Submittals Must Be Incorporated (See Articles 3.7 and 3.9):* Contractor shall include Submittals as line items in the Baseline Schedule as required under Article 3.7.2 and 3.9.6. Submittals shall not delay the Work, Milestones, or the Completion Date. Failure to include Submittals in the Baseline Schedule shall be deemed a material breach by the Contractor.

8.3.2.5 *Float Must Be Incorporated.* The Baseline Schedule must indicate the beginning and completion of all phases of construction and shall use the “critical path method” (commonly called CPM) for the value reporting, planning and scheduling, of all Work required under the Contract Documents. The Baseline Schedule must incorporate all Milestones in the Project and apply Governmental Float at each Milestone in the Contractor’s discretion. The Baseline Schedule shall incorporate any Schedule provided by the District as part of the bid and shall note durations that will not be adequate or should be shortened based on Contractor’s review. These changes shall be identified and incorporated into Contractor’s Baseline Schedule as long as requested changes are made within 10 days after the District chooses to move forward with the Project. Scheduling is necessary for the District’s adequate monitoring of the progress of the Work and shall be prepared in accordance with the time frame described in this Article 8. The Architect may disapprove of any Schedule or require modification to it if, in the opinion of the Architect or District, adherence to the any Schedule prepared by the Contractor will not cause the Work to be completed in accordance with the Agreement.

8.3.2.6 *No Early Completion.* Contractor shall not submit any Schedule showing early completion without indicating float time through the date set for Project completion by District. Contractor’s Baseline Schedule shall account for all days past early completion as float which belongs to the Project. Usage of float shall not entitle Contractor to any delay Claim or damages due to delay.

8.3.2.7 *Use of Schedule Provided in Bid Documents.* In some cases, the bid will include a preliminary schedule indicating Milestones and construction sequences for the Project along with general timing for the Project. The preliminary schedule is not intended to serve as the Baseline Schedule utilized for construction. It is up to the Contractor to study and develop a Baseline Schedule to address the actual durations and sequences of Work that is anticipated while maintaining the Milestones provided by the District. Contract shall obtain information from Contractor’s Subcontractors and vendors on the planning, progress, delivery of equipment, coordination, and timing of availability of Subcontractors so a practical plan of Work is fully developed and represented in the Baseline Schedule.

8.3.2.8 *Incorrect Logic, Durations, Sequences, or Critical Path.* The District may reject or indicate durations, sequences, critical path or logic are not acceptable and request changes. The electronic copy of the Baseline Schedule shall have adequate information so logic ties, duration,

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sequences and critical path may be reviewed electronically. Contractor is to diligently rebuild and resubmit the Baseline Schedule to represent the Contractor's plan to complete the Work and maintain Milestones at the next progress meeting, or before the next progress meeting. If Contractor is not able to build a Baseline Schedule that is acceptable to the District or Architect, the District reserves the right to utilize the unapproved originally submitted Baseline Schedule (See Article 8.3.2.12) and the comments submitted to hold Contractor accountable for timely delivery of Work and maintenance of Milestones. Furthermore, Contractor's representations in the Baseline Schedule, if unacceptable, may also be used as a basis for termination of the Contract under Article 14 if Contractor fails to adequately maintain the Schedule and falls significantly behind without undertaking the efforts to either submit and follow a Recovery Schedule or fail to submit a Recovery Schedule and make no effort toward recovery on the Project.

8.3.2.9 *Contractor Responsibility Even if Schedule Issues Are Not Discovered.* Failure on the Part of the District to discover errors or omissions in any Schedules submitted shall not be construed to be an approval of the error or omission and any flawed Schedule is not grounds for a time extension.

8.3.2.9 Inclusions in Baseline Schedule. In addition to scheduling requirements set forth at Article 8.3.2, Contractor is specifically directed to include (broken out separately) in Contractor's Baseline Schedule and all Schedule updates, the following items required pursuant to these General Conditions, including but not limited to:

1. Rain Day Float (excluding inclement weather) as required under Article 8.1.4.2. For example, if the NOAA provides 22 days of Rain Days, all 22 days must be incorporated and noted in the Baseline Schedule. Further, any days required to clean-up or dry out shall be included for operations that are likely to require a clean-up or dry out period. Days that are not utilized shall be considered float owned by the Project.
2. Governmental Delay Float under Article 8.1.4.1. This Governmental Delay Float shall only be utilized for Governmental Delays and shall not be considered available float owned by the Project. This float shall only be distributed to the Project upon the completion of the Project and shall be used to offset Liquidated Damages and shall not generate compensable delays.
3. Submittal and Shop Drawing schedule under Article 3.9.
4. Deferred Approvals under Article 3.9.
5. Time for separate contractors, including furniture installation and start up activities, under Article 6.1.
6. Coordination and timing of any Drawings, approvals, notifications, permitting, connection, and testing for all utilities for the Project. (See Article 2.1.4).
7. Testing, special events, or school activities

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8.3.2.10 *Failure to include Mandatory Schedule Items.* District may withhold payment pursuant to Articles 9.3, 9.4 and 9.6. In lieu of withholding payment for failure to include Mandatory Schedule Items, after the District or Architect has notified the Contractor of failure to meet the Baseline Schedule or Updated Schedule requirements and provided a written notification of this failure and provided a written notice of Schedule preparation errors, and the Contractor fails to correct the noted deficiencies or the Contractor does not provide an updated Baseline Schedule correcting the deficiencies, then Contractor shall not be granted an extension of time for failure to obtain necessary items and approvals under Article 8.3.2 and for the time required for failure to comply with laws, building codes, and other regulations (including Title 24 of the California Code of Regulations). Contractor shall maintain all required Article 8.3.2 Schedule items in the Baseline Schedule and indicate any days that have been used as allowed in Article 8. If Contractor fails to include all Article 8.3.2 items in its Baseline Schedule or Schedule Updates and the District either utilizes an Unapproved Schedule under Article 8.3.2.12 or does not object to the inclusion of required scheduling items, then all mandatory Schedule inclusions, including float, shall be utilized in the District's discretion. If the Contract Time is exceeded, then Contractor shall be subject to the assessment of Liquidated Damages pursuant to Article 8.4.

8.3.2.11 *Failure to Meet Requirements.* Failure of the Contractor to provide proper Schedules as required by this Article and Article 9 is a material breach of the Contract and grounds for Termination pursuant to Article 14. The District, at its sole discretion, may choose, instead, to withhold, in whole or in part, any Progress Payments or Retention amounts otherwise payable to the Contractor.

8.3.2.12 *Use of an Unapproved Baseline Schedule.* If the Baseline Schedule submitted by the Contractor is unacceptable to the District (i.e. failing to meet the requirements of Article 8.3.2) and Contractor does not incorporate or address the written comments to the Baseline Schedule and a Baseline Schedule is not approved, but due to extreme necessity, the District moves forward without an approved Baseline Schedule, Contractor shall diligently revise and meet Schedule update requirements of Article 8 and incorporate all Article 8.3.2 comments in all updates). However, for purposes of Termination pursuant to Article 14, the unapproved Baseline Schedule initially submitted shall be treated as the Baseline Schedule with durations shortened or revised to accommodate all float, all mandatory Schedule requirements under Article 8.3.2, any requirements in the Contract Documents, and all revisions by the District or Architect.

8.3.3 Update Schedules

8.3.3.1 *Updates Shall Be Based on Approved Baseline Schedule.* Except in the case where there has not been agreement as to a Baseline Schedule, the approved Baseline Schedule shall be used to build future Schedule updates. Schedule updates shall be a CPM based Schedule consistent with the Baseline Schedule requirements of 8.3.2

In the case that no Baseline has been approved, Schedule updates shall be provided monthly and each update shall incorporate all comments and revisions noted as not complying with the requirements of Article 8.3.2. Contractor shall be held to the Article 8.3.2.12 unapproved Baseline Schedule, inclusive of all Milestones, float, comments and revisions by the District and Architect, all required Baseline Schedule Inclusions under Article 8.3.2, and any requirements in the Contract Documents.

8.3.3.2 *Schedule Updates.* Contractor shall update the approved Schedule each month to address actual start dates and durations, the percent complete on activities, actual completion dates, estimated remaining duration for the Work in progress, estimated start dates for Work scheduled to start at future times and changes in duration of Work items

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8.3.3.3 *Listing of Items Causing Delays.* Schedule updates shall provide a listing of activities which are causing delay in the progress of Work and a narrative shall be provided showing a description of problem areas, anticipated delays, and impacts on the Construction Schedule. Simply stating "District Delay" or "Architect Delay" shall be an inadequate listing. Delays shall only be listed if they meet the requirements of Article 8.4.

8.3.3.4 *Recovery Schedule.* In addition to providing a schedule update every thirty (30) days, the Contractor, if requested by the Architect or District, shall take the steps necessary to improve Contractor's progress and demonstrate to the District and Architect that the Contractor has seriously considered how the lost time, the Completion Date, or the Milestones that are required to be met within the terms of the Contract. Contractor shall immediately provide a Recovery Schedule showing how Milestones and the Completion Date will be met. In no case, shall a Recovery Schedule be provided later than ten (10) days following the request for a Recovery Schedule from the Architect or District.

- a. Failure to Provide a Recovery Schedule. Shall subject Contractor to the assessment of Liquidated Damages for failure to meet the Contract Time. Refusal or failure to provide a Recovery Schedule shall be considered a substantial failure of performance and a material breach of Contract and may result in Termination of the Contract pursuant to Article 14.
- b. Recovery Schedule Acceleration without Additional Cost. The District may require Contractor prepare a Recovery Schedule showing how the Project shall be accelerated, without any additional cost to the District. The District may order, without additional cost, the following:
 1. Increase the number of shifts;
 2. Utilize overtime to recover the approved Schedule; and/or
 3. Increase the days when Work occurs, including weekends, at the Project and at any manufacturer's plant.
- c. Recovery Schedule Acceleration without Additional Cost. If Contractor disputes that the Recovery Schedule acceleration shall be issued without additional costs, the Contractor shall submit concurrent with Recovery Schedule acceleration notice pursuant to Articles 8.4.3 and 8.4.4.

8.4 EXTENSIONS OF TIME - LIQUIDATED DAMAGES

8.4.1 Liquidated Damages

CONTRACTOR AND DISTRICT HEREBY AGREE THAT THE EXACT AMOUNT OF DAMAGES FOR FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED IS EXTREMELY DIFFICULT OR IMPOSSIBLE TO DETERMINE. IF THE WORK IS NOT SUBSTANTIALLY COMPLETED IN THE TIME SET FORTH IN THE AGREEMENT, IT IS UNDERSTOOD THAT THE DISTRICT WILL SUFFER DAMAGES. IT BEING IMPRACTICAL AND UNFEASIBLE TO DETERMINE THE AMOUNT OF ACTUAL DAMAGE, IT IS AGREED THE CONTRACTOR SHALL PAY TO THE DISTRICT THE AMOUNT LIQUIDATED DAMAGES SET FORTH IN THE AGREEMENT, FOR EACH CALENDAR DAY OF DELAY IN REACHING SUBSTANTIAL COMPLETION (SEE ARTICLE 1.1.46). CONTRACTOR AND ITS SURETY

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SHALL BE LIABLE FOR THE AMOUNT THEREOF PURSUANT TO GOVERNMENT CODE SECTION 53069.85.

8.4.2 Delay

Except and only to the extent provided under Article 7 and Article 8, by signing the Agreement, Contractor agrees to bear the risk of delays to Completion of the Work and that Contractor's bid for the Project was made with full knowledge of this risk.

In agreeing to bear the risk of delays to complete the Work, Contractor understands that, except and only to the extent provided otherwise in Article 7 and 8, the occurrence of events that delay the Work shall not excuse Contractor from its obligation to achieve Completion of the Project within the Contract Time, and shall not entitle the Contractor to an adjustment to the Contract time.

8.4.3 Excusable Delay

Contractor shall not be charged for Liquidated Damages because of any delays in completion of Work which are not the fault or negligence of Contractor or its Subcontractors, arising from Rain Float or Project Float, including acts of God, as defined in Public Contract Code section 7105, acts of enemy, epidemics and quarantine restrictions. Contractor shall within five (5) calendar days of beginning of any such delay notify District in writing of causes of delay; thereupon District shall ascertain the facts and extent of delay and grant extension of time for completing Work when, in its judgment, the findings of fact justify such an extension. Extensions of time shall apply only to that portion of Work affected by delay, and shall not apply to other portions of Work not so affected. An extension of time may only be granted after proper compliance with Article 8.3 requiring preparation and submission of a properly prepared CPM schedule.

8.4.3.1 *Excusable Delay Is Not Compensable.* No extended overhead, general conditions costs, impact costs, out-of-sequence costs or any other type of compensation, by any name or characterization, shall be paid to the Contractor for any delay to any activity not designated as a critical path item on the latest approved Project schedule.

8.4.3.2 *Notification.* The Contractor shall notify the Architect in writing of any anticipated delay and its cause, in order that the Architect may take immediate steps to prevent, if possible, the occurrence or continuance of delay, and may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

8.4.3.3 *Extension Request.* In the event the Contractor requests an extension of Contract time for unavoidable delay, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work (See Article 7). When requesting time, i.e., extensions, for proposed Change Orders, they must be submitted with the proposed Change Order with full justification and documentation. If the Contractor fails to submit justification with the proposed Change Order it waives its right to a time extension at a later date. Such justification must be based on the official Contract schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the scope of Work. Blanket or general claims for extra days without specific detailed information as required herein or a blanket or general reservation of rights do not fulfill the requirements of this Article and shall be denied. The justification must include, but is not limited to, the following information:

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- a. The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.
- b. Logical ties to the official Baseline Schedule or Approved Updated Schedule for the proposed changes and/or delay showing the activity/activities in the schedule whose start or completion dates are affected by the change and/or delay. (A fragnet of any delay of over ten (10) days must be provided.)

The Contractor and District understand and expressly agree that insofar as Public Contract Code section 7102 may apply to changes in the Work or delays under this Contract, the actual delays and damages, if any, and time extensions are intended to, and shall provide, the exclusive and full method of compensation for changes in the Work and construction delays.

8.4.4 Notice by Contractor Required

The Contractor shall within five (5) calendar days of beginning of any such delay notify the District in writing of causes of delay with justification and supporting documentation. In the case of a Recovery Schedule pursuant to Article 8.3.3.4, Contractor shall submit written notice concurrent with the Recovery Schedule. District will then ascertain the facts and extent of the delay and grant an extension of time for completing the Work when, in its judgment, the findings of fact justify such an extension. Extensions of time shall apply only to that portion of the Work affected by the delay and shall not apply to other portions of the Work not so affected.

Claims relating to time extensions shall be made in accordance with applicable provisions of Article 7.

8.4.4.1 *Adjustment for Compensable Delays.* The Schedule may be adjusted for a delay if, and only if, Contractor undertakes the following:

- a. Contractor submits a timely COR or CO pursuant to the requirements of Article 7.
- b. Contractor submits a fragnet showing the critical path delay caused by the COR, CO, Changed Condition, CCD, or ICD
- c. Contractor has addressed all required float days in the Fragnet.
- d. Contractor submits a complete breakdown of all costs incurred utilizing the format of Article 7.3.3

8.4.5 No Additional Compensation for Coordinating Governmental Submittals and the Resulting Work

CONTRACTOR HAS PLANNED ITS WORK AHEAD OF TIME AND IS AWARE THAT GOVERNMENTAL AGENCIES, SUCH AS THE GAS COMPANIES, ELECTRICAL UTILITY COMPANIES, WATER DISTRICTS AND OTHER AGENCIES MAY HAVE TO APPROVE CONTRACTOR PREPARED DRAWINGS OR APPROVE A PROPOSED INSTALLATION. CONTRACTOR HAS INCLUDED DELAYS AND DAMAGES WHICH MAY BE CAUSED BY SUCH AGENCIES IN CONTRACTOR'S BID AND HAS INCLUDED ADEQUATE TIME IN THE

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CONTRACTOR'S BASELINE SCHEDULE. FAILURE TO ADEQUATELY PLAN AND SCHEDULE IS NOT A BASIS TO USE GOVERNMENTAL DELAY FLOAT.

8.4.6 District Right to Accelerate the Work

The District may direct the Contractor to meet schedule requirements when the Work has been delayed. The District shall compensate the Contractor for the additional costs incurred by acceleration to the extent that such costs are directly attributable to the acceleration and are incurred through no fault or negligence of the Contractor.

8.4.6.1 *Management of Acceleration.* Contractor acceleration shall not include Work that is part of the scope of Work detailed in the Plans and Specifications. Instead, the acceleration costs shall be premium or overtime and quantifiable additional work added to the Project meant to accelerate the Project. Contractor is directed to keep consistent crews on the Project so time can be tracked. If crews are circulated off the Project or crews brought in only for overtime, the District may be charged for Contract Work and not accelerated time. In such case, the District may object to the costs submitted.

8.4.6.2 *Costs for Acceleration.* Cost for Acceleration shall be supported by backup documentation, and time sheets signed by the Inspector for each day work has been performed, at or near the time when the Work was performed. A listing on the time sheet shall document all labor, materials and services utilized that day and provide areas of work, and amount of work performed. Contractor shall comply with submission requirements of Article 7.7.

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ARTICLE 9 PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

The Contract Sum or Contract Price is stated in the Agreement and, including authorized adjustments, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents.

9.2 COST BREAKDOWN

9.2.1 Required Information

Contractor shall furnish the following:

- a. Within ten (10) days after Notice to Proceed, a detailed breakdown of the Contract Price (hereinafter "Schedule of Values") for each Project, Site, building, Milestone or other meaningful method to measure the level of Project Completion as determined by the District shall be submitted as a Submittal for the Project.;
- b. Within ten (10) days after the date of the Notice to Proceed, a schedule of estimated monthly payment requests due the Contractor showing the values and construction time of the various portions of the Work to be performed by it and by its Subcontractors or material and equipment suppliers containing such supporting evidence as to its correctness as the District may require;
- c. Within ten (10) days after the date of the Notice to Proceed, address, telephone number, telecopier number, California State Contractors License number, classification and monetary value of all subcontracts for parties furnishing labor, material, or equipment for completion of the Project.

9.2.2 Information and Preparation of Schedule of Values

9.2.2.1 *Break Down of Schedule of Values.* Schedule of Values shall be broken down by Project, site, building, Milestone, or other meaningful method to measure the level of Project Completion as determined by the District.

9.2.2.2 *Based on Contractor Bid Costs.* The Schedule of Values shall be based on the costs from Contractor's bid to the District. However, the submission of the Schedule of Values shall not be front loaded so the Contractor is paid a greater value than the value of the Work actually performed and shall not shift funds from parts of the Project that are later to Work that is performed earlier.

9.2.2.3 Largest Dollar Value for Each Line Item. Identify Subcontractors and materials suppliers proposed to provide portions of Work equal to or greater than ten thousand dollars (\$10,000) or one-half of one percent (0.5%) of their Contract Price, whichever is less.

9.2.2.4 *Allowances.* Any Allowances provided for in the Contract shall be a line item in the Schedule of Values.

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9.2.2.5 *Labor and Materials Shall Be Separate.* Labor and Materials shall be broken into two separate line items unless specifically agreed in writing by the District.

9.2.3 District Approval Required

The District shall review all submissions received pursuant to Article 9.2 in a timely manner. All submissions must be approved by the District before becoming the basis of any payment.

9.3 PROGRESS PAYMENTS

9.3.1 Payments to Contractor

Unless there is a resolution indicating that the Work for the Project is substantially complex, within thirty-five (35) days after approval of the Request for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as certified by Architect and Inspector and verified by Contractor) up to the last day of the previous month, less the aggregate of previous payments. In the case of a Project designated substantially complex, the sum paid to the Contractor shall be equal to ninety percent (90%) of the value of the Work performed (as certified by the Architect and Inspector and verified by Contractor). **This project is not designated as substantially complex.** The value of the Work completed shall be the Contractor's best estimate. Work completed as estimated shall be an approximation or estimate only and no mistake, inaccuracy, error or falsification in said any approved estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's enforcement of each and every provision of this Contract including but not limited to the Performance Bond and Payment Bond. The District shall have the right to subsequently to correct any mistake, inaccuracy, error or falsification made or otherwise set forth in any approved Request for Payment and such correction may occur in any future Payment Application or in the Retention Payment to the Contractor. No Surety upon any bond shall be relieved, released or exonerated of its obligations under this Contract or any applicable bond when the District is unable to correct an overpayment to the Contractor due to any abandonment by the Contractor or termination by the District.

The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for Work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

Notwithstanding anything to the contrary stated above, the Contractor may include in its Request for Payment the value of any structural steel, glue laminated beams, trusses, bleachers and other such custom-made materials prepared specifically for the Project and unique to the Project so long as all of the following requirements are satisfied:

- a. The aggregate cost of materials stored off-site shall not exceed Twenty Five Thousand Dollars (\$25,000) at any time or as otherwise agreed to be District in writing;
- b. Title to such materials shall be vested in the District as evidenced by documentation satisfactory in form and substance to the District, including, without limitation, recorded financing statements, UCC filings and UCC searches;

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- c. With each Contractor Request for Payment, the Contractor shall submit to the District a written list identifying each location where materials are stored off-site (which must be a bonded warehouse) and the value of the materials at each location. The Contractor shall procure insurance satisfactory to the District (in its reasonable discretion) for materials stored off-site in an amount not less than the total value thereof;
- d. The consent of any Surety shall be obtained to the extent required prior to payment for any materials stored off-site;
- e. Representatives of the District shall have the right to make inspections of the storage areas at any time; and
- f. Such materials shall be: (1) protected from diversion, destruction, theft and damage to the reasonable satisfaction of the District; (2) specifically marked for use on the Project; and (3) segregated from other materials at the storage facility.

9.3.2 Purchase of Materials and Equipment and Cost Fluctuations

The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays. Contractor understands that materials fluctuate in value and shall have adequately addressed market fluctuations through agreements with Contractor vendors or by other means. Contractor further understands and incorporates into Contractor's bid cost any wage rate increases during the Project for the Contractor's labor force as well as all other Subcontractor and vendor labor forces. District shall not be responsible for market fluctuations in costs or labor rate increases during the Project. Contractor further has incorporated any and all cost increases in areas of Work where there may be schedule variations so that cost increases are not passed through to the District.

9.3.3 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Contractor specifically understands that Title 24 Section 4-343 which states:

"It is the duty of the contractor to complete the work covered by his or her contract in accordance with the approved Plans and Specifications therefore. The contractor in no way is relieved of any responsibility by the activities of the Architect, Engineer, Inspector or DSA in the performance of such duties... In no case, however, shall the instruction of the Architect or registered Engineer be construed to cause work to be done with is not in conformity with the approved Plans, Specifications, and change orders..."

Notwithstanding any payment, the District may enforce each and every provision of this Contract which includes, but is not limited to, the Performance Bond and Payment Bond. The District may correct any error subsequent to any payment. In no event shall the Contractor or the Surety be released or exonerated from performance under this Contract when the District overpays the Contractor based upon any mistake, inaccuracy, error or falsification in any estimate that is included in any Request for Payment.

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9.3.4 Issuance of Certificate of Payment

The Architect shall, within seven (7) days after receipt of the Contractor's Application for Payment, either approve such payment or notify the Contractor in writing of the Architect's reasons for withholding approval in whole or in part as provided in Article 9.6. The review of the Contractor's Application for Payment by the Architect is based on the Architect's observations at the Project and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. In some cases, the Architect may act upon or rely on the evaluation of the Work by the Inspector. This review of Payment Applications is sometimes called a "Pencil Draft." District's return of a Pencil Draft shall constitute the District's dispute of the Payment Application that has been submitted. Contractor shall promptly respond to Pencil Drafts or Contractor's Payment Applications may be delayed. Contractor's failure to promptly respond to a Pencil Draft shall qualify as a delay in the prompt payment of a Request for Payment or Request for Retention. The foregoing representations are subject to: (1) an evaluation of the Work for conformance with the Contract Documents, (2) results of subsequent tests and inspections, (3) minor deviations from the Contract Documents correctable prior to completion, and (4) specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute the Contractor's verified representation that the Contractor is entitled to payment in the amount certified.

9.3.5 Payment of Undisputed Contract Payments

In accordance with Public Contract Code section 7100, payments by the District to the Contractor for any and all undisputed amounts (including all Progress Payments, Final Payments or Retention Payment) is contingent upon submission of a proper and accurate Payment Application and the Contractor furnishing the District with a release of all Claims against the District related to such undisputed amounts. Disputed Contract Claims in stated amounts may be specifically excluded by the Contractor from the operation of the release. If, however, the Contractor specifically excludes any Claims, the Contractor shall provide details such as a specific number of disputed days or costs of any such exclusion in accordance with Articles 4.6 and 7.7.

9.4 APPLICATIONS FOR PROGRESS PAYMENTS

9.4.1 Procedure

9.4.1.1 *Application for Progress.* On or before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the Architect an itemized Application for Progress Payment for operations completed. Such application shall be notarized, if required, and supported by the following or such portion thereof as Architect requires:

1. The amount paid to the date of the Payment Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;
2. The amount being requested under the Payment Application by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;

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3. The balance that will be due to each of such entities after said payment is made;
4. A certification that the As-Built Drawings and Annotated Specifications are current;
5. Itemized breakdown of Work done for the purpose of requesting partial payment;
6. An updated or approved Baseline Schedule or other Schedule updates in conformance with Article 8;
7. Failure to submit an updated Schedule for the month or any previous month;
8. The additions to and subtractions from the Contract Price and Contract Time;
9. A summary of the Retention held;
10. Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;
11. The percentage of completion of the Contractor's Work by line item;
12. An updated Schedule of Values from the preceding Application for Payment;
13. Prerequisites for Progress Payments; and
14. Any other information or documents reasonably requested by the District, Architect, Inspector or CM (if applicable).

9.4.1.2 *First Payment Request.* The following items, if applicable, must be completed before the first payment request will be accepted for processing:

1. Installation of the Project sign;
2. Receipt by Architect of Submittals;
3. Installation of field office;
4. Installation of temporary facilities and fencing;
5. Submission of documents listed in the Article 9.2 relating to Contract Price breakdown;
6. Preliminary schedule analysis, due within 10 days after Notice to Proceed;

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7. Contractor's Baseline Schedule (to be CPM based in conformance with Article 8);
8. Schedule of unit prices, if applicable;
9. Submittal Schedule;
10. Copies of necessary permits;
11. Copies of authorizations and licenses from governing authorities;
12. Initial progress report;
13. Surveyor qualifications;
14. Written acceptance of District's survey of rough grading, if applicable;
15. List of all Subcontractors, with names, license numbers, telephone numbers, and scope of work;
16. All bonds and insurance endorsements; and
17. Resumes of General Contractor's Project Manager, and if applicable, job site secretary, record documents recorder, and job site Superintendent.

9.4.1.3 *Second Payment Request.* The second payment request will not be processed until all Submittals and Shop Drawings have been accepted for review by the Architect.

9.4.1.4 *All Payment Requests.* No payment requests will be processed unless Contractor has submitted copies of the certified payroll records for the Work which correlates to the payment request and a proper CPM schedule pursuant to Article 8 is submitted.

9.4.1.5 *Final Payment Application (90% or 95%).* See Article 9.11.1

9.4.1.6 *Final Payment Application (100%).* See Article 9.11.3

9.5 STOP NOTICE CLAIMS AND WARRANTY OF TITLE

The Contractor warrants title to all Work. The Contractor further warrants that all Work is free and clear of liens, claims, security interests, stop notices, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work. Failure to keep work free of liens, stop notices, claims, security interests or encumbrances is grounds to make a claim against Contractor's Payment and Performance Bond to immediately remedy and defend.

If a lien or stop notice of any nature should at any time be filed against the Work or any District property, by any entity which has supplied material or services at the request of the Contractor, Contractor and Contractor's Surety shall promptly, on demand by District and at Contractor's and Surety's own expense, take any and all action necessary to cause any such lien or stop notice to be released or discharged immediately therefrom.

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If the Contractor fails to furnish to the District within ten (10) calendar days after written demand by the District, satisfactory evidence that a lien or stop notice has been so released, discharged, or secured, then District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney's fees and expense incurred or suffered by District from any sum payable to Contractor under the Contract. In addition, any liens, stop notices, claims, security interests or encumbrances shall trigger the indemnification requirements under Article 3.15 and the Agreement Form, and shall act as a trigger under Civil Code section 2778 and 2779 requiring reimbursement for any and all costs following the District's written demand has been made. Any withholdings by the District for stop notices in accordance with Civil Code section 9358 shall not be a basis by the Contractor to make a Claim for interest penalties under Public Contract Code sections 7107 or 20104.50.

9.6 DECISIONS TO WITHHOLD PAYMENT

9.6.1 Reasons to Withhold Payment

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required by Article 9.4 cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to:

- a. Defective Work not remedied;
- b. Stop notices served upon the District;
- c. Liquidated Damages assessed against the Contractor;
- d. The cost of Completion of the Contract if there exists reasonable doubt that the Work can be Completed for the unpaid balance of any Contract Price or by the completion date;
- e. Damage to the District or other contractor;
- f. Unsatisfactory prosecution of the Work by the Contractor;
- g. Failure to store and properly secure materials;
- h. Failure of the Contractor to submit on a timely basis, proper and sufficient documentation required by the Contract Documents, including, without limitation, acceptable monthly progress schedules, Shop Drawings, Submittal schedules, Schedule of Values, Product Data and samples, proposed product lists, executed Change Order, Construction Change Documents, and verified reports;
- i. Failure of the Contractor to maintain As-Built Drawings;
- j. Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Payment Application;
- k. Unauthorized deviations from the Contract Documents (including but not limited to Unresolved Notices of Deviations (DSA Form 154));

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- l. Failure of the Contractor to prosecute the Work in a timely manner in compliance with established progress schedules and completion dates.
- m. Failure to properly pay prevailing wages as defined in Labor Code section 1720, et seq.;
- n. Failure to properly maintain or clean up the Site;
- o. Payments to indemnify, defend, or hold harmless the District;
- p. Any payments due to the District including but not limited to payments for failed tests, or utilities changes or permits;
- q. Failure to submit an acceptable Baseline Schedule or any Schedule or Schedule update in accordance with Article 8;
- r. Failure to pay Subcontractor or suppliers as required by Article 9.8.1
- s. Failure to secure warranties, including the cost to pay for warranties;
- t. Failure to provide releases from material suppliers or Subcontractors when requested to do so;
- u. Items deducted pursuant to Article 2.2;
- v. Incomplete Punch List items under Article 9.9.1.1 which have gone through the Article 2.2 process; or
- w. Allowances that have not been used.

9.6.2 Reallocation of Withheld Amounts

District may, in its discretion, apply any withheld amount to payment of outstanding claims or obligations as defined in Article 9.6.1 and 9.5. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then such amount shall be considered as a payment made under Contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of such funds disbursed on behalf of Contractor.

If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after ten (10) calendar days written notice to the Contractor and without prejudice to any other remedy make good such deficiencies. The District shall adjust the total Contract price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work which is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least 150% of the estimated reasonable value of the nonconforming Work) shall be made therefor.

9.6.3 Payment After Cure

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When the grounds for declining approval are removed, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

9.7 NONCONFORMING WORK

Contractor shall promptly remove from premises all Work identified by District as failing to conform to the Contract whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract without additional expense to District and shall bear the expense of making good all Work of other contractors destroyed or damaged by such removal or replacement.

If Contractor does not remove such Work which has been identified by District as failing to conform to the Contract Documents within a reasonable time, fixed by written notice, District may remove it and may store the material at Contractor's expense. If Contractor does not pay expenses of such removal within ten (10) calendar days' time thereafter, District may, upon ten (10) calendar days' written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

9.8 SUBCONTRACTOR PAYMENTS

9.8.1 Payments to Subcontractors

No later than ten (10) days after receipt, or pursuant to Business and Professions Code section 7108.5, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

9.8.2 No Obligation of District for Subcontractor Payment

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

9.8.3 Payment Not Constituting Approval or Acceptance

An approved Request for Payment, a progress payment, a Certificate of Substantial Completion, or partial or entire use or occupancy of the Project by the District shall not constitute acceptance of Work that is not in accordance with the Contract Documents.

9.8.4 Joint Checks

District shall have the right, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, any obligation from the District to such Subcontractor, or rights in such Subcontractor against the District. The District may choose to issue joint checks at District's sole discretion and only after all the requirements of that particular school district and

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county are specifically met. Some school districts cannot issue joint checks, so the ability to issue joint checks depends on the school district and the specific circumstances.

9.9 COMPLETION OF THE WORK

9.9.1 Close-Out Procedures

9.9.1.1 *Incomplete Punch Items.* When the Contractor considers the Work Substantially Complete (See Article 1.1.46 for definition of Substantially Complete), the Contractor shall prepare and submit to the District a comprehensive list of minor items to be completed or corrected (hereinafter “Incomplete Punch Items” or “Punch List”). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct the Incomplete Punch Items listed. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Contractor is aware that Title 24 Section 4-343(a) provides:

“RESPONSIBILITIES. IT IS THE DUTY OF THE CONTRACTOR TO COMPLETE THE WORK COVERED BY HIS OR HER CONTRACT IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS THEREFOR. THE CONTRACTOR IN NO WAY IS RELIEVED OF ANY RESPONSIBILITY BY THE ACTIVITIES OF THE ARCHITECT, ENGINEER, INSPECTOR OR DSA IN THE PERFORMANCE OF SUCH DUTIES.

9.9.1.2 *Punch List Is Prepared Only After the Project Is Substantially Complete.* If any of the conditions noted in Article 1.1.46 as defining Substantial Completion are not met, the Inspector, Architect or District may reject Contractor’s Incomplete Punch Items as premature. If the Architect and Inspector commence review of Incomplete Punch Items, all rights are reserved until the Project actually meets the definition of Substantially Complete. Liquidated Damages, warranties, and other contractual rights are not affected by Incomplete Punch Items unless otherwise addressed in these General Conditions.

Once the Inspector and the Architect determine the Project is Substantially Complete, a Certificate of Substantial Completion shall be issued. The Inspector and Architect shall prepare a Punch List of items which is an inspection report of the Work, if any, required in order to complete the Contract Documents and ensure compliance with the DSA Approved Plans so the Project may be Completed by the Contractor and a final DSA Close-Out is approved. When all Work for the Project is Complete, including Punch Lists and all Work complies with the approved Contract Documents and Change Orders, the Project has reached Final Completion.

9.9.1.3 *Time for Completion of Punch List.* Contractor shall only be given a period of no more than thirty (30) days to complete the Punch List for the Project. During the Punch List period, the Contractor’s Superintendent and Project Manager shall remain engaged in the Project and shall not be removed or replaced. If the Punch List is not completed at the end of the Punch List time then Contractor shall issue a valued Punch List within 5 days after the date the Punch List time ends. If Contractor does not issue such a list, the District or Architect may issue a valued Punch List to the Contractor and withhold up to 150% of the value of the Punch List Work pursuant to Article 2.2 of this Agreement.

Failure to issue a timely written request for additional time to complete Punch List shall result in the deletion of the remaining Punch List Work pursuant to Article 2.2 and the issuance of a Deductive Change Order.

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- a. Extension of Time to Complete Punch List. If Contractor cannot finish the Punch List Work during the time period allotted under Article 9.9.1.3, the Contractor may make a written request for a Non-Compensable Punch List time extension accompanied by an estimate of the number of additional days it will take to complete the Punch List Work for a written consent from the District to allow continued Punch List Work. Punch List time extensions are a maximum of thirty (30) days for each request and must be accompanied by an itemized valued Punch List.
- b. If there is no valued Punch List accompanying any request or if Contractor intends to undertake Punch List without the continued support and supervision of its Superintendent and Project Manager (as required under Article 3.2), the District, Construction Manager or Architect may issue a valued Punch List, reject the Punch List Time Extension and deduct 150% of the valued Punch List pursuant to Article 2.2 and proceed to Close-Out the Project. Contractor shall cease work on the Project and proceed to complete Contractor's Retention Payment Application and complete the Work for the Project required pursuant to Article 9.11.3.

9.9.1.4 *District Rejection of Written Request for Punch List Time Extensions.* Following sixty (60) Days of Punch List under Article 9.9.1.3, the District has the option of rejecting Punch List Time Extension requests. The District may proceed under Article 2.2 and deduct the value of remaining Punch List Work pursuant to Article 2.2. If the District rejects the Punch List Time Extension request then Contractor shall cease Work on the Project and proceed to Final Inspection pursuant to Article 9.11.2.

9.9.1.5 *Punch List Liquidated Damages to Compensate for Added District Project Costs.* If the total time utilized for Punch List exceeds sixty (60) days [the thirty (30) day period under Article 9.9.1.3 plus an additional thirty (30) day period that has been requested in writing], and the District grants an additional written Punch List Time Extension that exceeds sixty (60) days of Punch List, then Contractor shall be charged Liquidated Damages of at least \$750 per day for continued Punch List Work to partially compensate the Inspector, Architect, and Construction Manager's extended time on the Project. This Punch List Liquidated Damage number is based on anticipated cost for an Inspector on site and additional costs for the Architect and Construction Manager to reinspect Punch List items and perform the administration of the Close-out.

Contractor received thirty (30) days without any charges for Punch List Liquidated Damages and is placed on notice pursuant to this Article 9.9.1.5 that \$750 is due for each day of Punch List that exceeds sixty (60) days at \$750, a cost much lower than typical (and actual) costs for Inspection, Architect and Construction Manager time required during Punch List. Starting at ninety (90) days of Punch List (an excessive number of days to complete Punch List), the District shall be entitled to adjust Punch List Liquidated Damages to an estimate of the actual costs incurred to oversee, monitor and inspect the Punch List. If costs exceed \$750 per day, the anticipated extended contract charges for Inspection, Architect, Construction Manager, and any other costs that will be incurred due to the extended Punch List shall be itemized and a daily rate of Punch List Liquidated Damages shall be presented in writing to the Contractor within five (5) days following the receipt of a written request for Punch List Time Extension by the Contractor that extends the Punch List time beyond ninety (90) days. This written notice of actual Punch List Liquidated Damages may be provided to the Contractor at any time following

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the first written request for Punch List Time extension requested under Article 9.9.1.3. The adjusted actual Punch List Liquidated Damage amount shall be applicable as Punch List Liquidated Damages commencing on the ninetieth (90th) day of Punch List.

9.9.2 Close-Out Requirements for Final Completion of the Project

- a. Utility Connections. Buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected
- b. As-Built Up to Date and Complete. The intent of this procedure is to obtain an exact "As-Built" record of the Work upon completion of the project. The following information shall be carefully and correctly drawn on the prints and all items shall be accurately located and dimensioned from finished surfaces of building walls on all As-Built Drawings
 1. The exact location and elevations of all covered utilities, including valves, cleanouts, etc. must be shown on As-Built Drawings
 2. Contractor is liable and responsible for inaccuracies in As-Built Drawings, even though they become evident at some future date.
 3. Upon completion of the Work and as a condition precedent to approval of Retention Payment, Contractor shall obtain the Inspector's approval of the "As-Built" information. When completed, Contractor shall deliver corrected sepias and/or a Diskette with an electronic file in a format acceptable to the District.
 4. District may withhold the cost to hire a draftsman and potholing and testing service to complete Record As-Built Drawings at substantial cost if the Contractor does not deliver a complete set of Record As-Built Drawings. This shall result in withholding of between \$10,000 to \$20,000 per building that does not have a corresponding Record As Built Drawing.
- c. Any Work not installed as originally indicated on Drawings
- d. All DSA Close-Out Requirements (See DSA Certification Guide) Contractor is also specifically directed to Item 3.2 in the DSA Certification Guide and the applicable certificates for the DSA-311 form.
- e. Submission of Form 6-C. Contractor shall be required to execute a Form 6-C as required under Title 24 Sections 4-343. The Contractor understands that the filing with DSA of a Form 6-C is a requirement to obtain final DSA Approval of the construction by Contractor and utilized to verify under penalty of perjury that the Work performed by Contractor complies with the DSA approved Contract Documents. The failure to file a DSA Form 6C has two consequences. First, the Construction of the Project will not comply with the design immunity provisions of Government Code section 830.6 and exposes the District and the individual Board members to personal liability for injuries that occur on the Project.

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Secondly, under DSA IR A-20, since the Project cannot be Certified by DSA, no future or further Projects will be authorized so Contractor will have essentially condemned the campus from any future modernization or addition of new classrooms through their failure to file the DSA Form 6C.

1. *Execution of the DSA Form 6-C is Mandatory.* Refusal to execute the Form 6-C, which is a Final DSA Verified Report that all Work performed complies with the DSA approved Contract Documents is a violation of Education Code section 17312 and shall be referred to the Attorney General for Prosecution.
 2. *Referral to the District Attorney for Extortion.* If the Contractor's refusal to execute the DSA Form 6C is to leverage a Dispute, Claim or Litigation, then the matter shall also be referred to the District Attorney for prosecution for extortion.
 3. *Contractor shall be Responsible for All Costs to Certify the Project.* The District may certify the Project complies with Approved Plans and Specifications by utilizing the procedures under the Project Certification Guide (located at the DSA website). All costs for professionals, inspection, and testing required for an alternate Project Certification shall be the Contractor's responsibility and the District reserves its right to institute legal action against the Contractor and Contractor's Surety for all costs to certify the Project and all costs to correct Non-Compliant Work that is discovered during the Alternate Certification Process.
- f. ADA Work that must be corrected to receive DSA certification. See Article 12.2.
- g. Maintenance Manuals. At least thirty (30) days prior to final inspection, three (3) copies of complete operations and maintenance manuals, repair parts lists, service instructions for all electrical and mechanical equipment, and equipment warranties shall be submitted. All installation, operating, and maintenance information and Drawings shall be bound in 8½" x 11" binders. Provide a table of contents in front and all items shall be indexed with tabs. Each manual shall also contain a list of Subcontractors, with their addresses and the names of persons to contact in cases of emergency. Identifying labels shall provide names of manufactures, their addresses, ratings, and capacities of equipment and machinery.
1. Maintenance manuals shall also be delivered in electronic media for the Project. Any demonstration videos shall also be provided on electronic media.
- h. Inspection Requirements. Before calling for final inspection, Contractor shall determine that the following Work has been performed:
1. The Work has been completed;
 2. All fire/ life safety items are completed and in working order;

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3. Mechanical and electrical Work complete, fixtures in place, connected and tested;
4. Electrical circuits scheduled in panels and disconnect switches labeled;
5. Painting and special finishes complete;
6. Doors complete with hardware, cleaned of protective film relieved of sticking or binding and in working order;
7. Tops and bottoms of doors sealed;
8. Floors waxed and polished as specified;
9. Broken glass replaced and glass cleaned;
10. Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site;
11. Work cleaned, free of stains, scratches, and other foreign matter, replacement of damaged and broken material;
12. Finished and decorative work shall have marks, dirt and superfluous labels removed;
13. Final cleanup, as in Article 3.12;
14. All Work pursuant to Article 9.11.2; and
15. Furnish a letter to District stating that the District's Representative or other designated person or persons have been instructed in working characteristics of mechanical and electrical equipment.

9.9.3 Costs of Multiple Inspections

More than two (2) requests of the District to make inspections required under Article 9.9.1 shall be considered an additional service of Architect, Inspector, Engineer or other consultants shall be the Contractor's responsibility pursuant to Article 4.5 and all subsequent costs will be prepared as a Deductive Change Order.

9.10 PARTIAL OCCUPANCY OR USE

9.10.1 District's Rights

The District may occupy or use any completed or partially completed portion of the Work at any stage. The District and the Contractor shall agree in writing to the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents. If District and Contractor cannot agree as to responsibilities such disagreement shall be resolved pursuant to

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Article 4.6. When the Contractor considers a portion complete, the Contractor shall prepare and submit a Punch List to the District as provided under Article 9.9.1.

9.10.2 Inspection Prior to Occupancy or Use

Immediately prior to such partial occupancy or use, the District, the Contractor, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.10.3 No Waiver

Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

9.11 COMPLETION AND FINAL PAYMENT

9.11.1 Final Payment (90% Billing if Substantially Complex Finding and 95% Billing If No Finding Is Made). ***This project is not designated as substantially complex.***

The following items must be completed before the Final Payment Application will be accepted for processing at Substantial Completion of the Project:

- a. Inspector sign-off of each item in the DSA 152 Project Inspection Card;
- b. The Project has reached the Punch List items under Article 9.9.1.2 and the Project has been determined to be Substantially Complete under Article 1.1.46;
- c. Removal of temporary facilities and services;
- d. Testing, adjusting and balance records are complete;
- e. Removal of surplus materials, rubbish, and similar elements;
- f. Changeover of door locks;
- g. Deductive items pursuant to Article 9.6 and Article 2.2; and
- h. Completion and submission of all final Change Orders for the Project.

9.11.2 Final Inspection (Punch List Completion)

Contractor shall comply with Punch List procedures under Article 9.9.1.1, and maintain the presence of Project Superintendent and Project Manager (not replacement project superintendent or project manager) until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List.

Upon completion of the Work under Article 9.9.1, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect and the District find the Work contained in the Punch List acceptable under the Contract Documents, the Work shall have reached Final

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Completion. Architect shall notify Contractor, who shall then submit to the Architect its Application for Retention Payment. This Application for Retention Payment shall contain any deductions under Article 9.6, including but not limited to incomplete Punch List items under Article 9.9.1.

Upon receipt and approval of Application for Retention Payment, the Architect shall issue a Form 6 stating that to the best of its knowledge, information, and belief, and on the basis of its observations, inspections, and all other data accumulated or received by the Architect in connection with the Work, such Work has been completed in accordance with the Contract Documents. The District shall thereupon inspect such Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete (which, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of payment from the District, pay the amounts due Subcontractors.

If the Architect and the District find that the Work contained in the Punch List is unacceptable, then Contractor shall issue a valued Punch List within 5 days after the date the Punch List time ends. If Contractor does not issue such a list, the District or Architect may issue a valued Punch List to the Contractor and withhold up to 150% of the value of the Punch List Work pursuant to Article 2.2 of this Agreement.

9.11.3 Retainage (100% Billing for the Entire Project)

The retainage, less any amounts disputed by the District or which the District has the right to withhold pursuant to the Contract Documents (including but not limited to incomplete Punch List items under Article 9.9.1), shall be paid after approval by the District of the Application for Retention Payment, after the satisfaction of the conditions set forth in Article 9, the Final Inspection under Article 9.11.2 is completed, and after thirty-five (35) days after the acceptance of the Work and recording of the Notice of Completion by District. No interest shall be paid on any retainage, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any escrow agreement between the District and the Contractor.

- a. Procedures for Application for Retention Payment. The following conditions must be fulfilled prior to release of Retention Payment:
 1. A full and final waiver or release of all stop notices in connection with the Work shall be submitted by Contractor, including a release of stop notice in recordable form, together with (to the extent permitted by law) a copy of the full and final release of all Stop Notice rights.
 2. The Contractor shall have made all corrections, including all Punch List Items, to the Work which are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

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3. Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, releases from the Surety and warranty bonds (if applicable) required by the Contract Documents for its portion of the Work.
4. Contractor must have completed all requirements set forth in Article 9.9
5. Contractor must have issued a Form 6C for the Project.
6. The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents.
7. The Contractor shall have completed final clean up as required by Article 3.12
8. Contractor shall have all deductive items under Article 9.6 and Article 2.2 submitted as part of the Retention Payment.

9.11.4 Recording of a Notice of Completion After Punch List Period and Final Inspection.

When the Work, or designated portion thereof, is complete or the District has completed the Article 9.6 and/or the Article 2.2 process, whichever occurs first, the District will file either a Notice of Completion or a Notice of Completion noting valued Punch List items. Valued Punch List items will be deducted from the Retention Payment.

During the time when Work is being performed on the Punch List, the Project does not meet the definition of "Complete" under Public Contract Code section 7107(c)(1) even if there is "beneficial occupancy" of the Project since that has been no "cessation of labor" on the Project. Completion of Punch List under this Article is not "testing, startup, or commissioning by the public entity or its agent." In other words, the continuing Punch List Work is Contractor labor on the Project until each and every item of Punch List Work is complete or the time periods under Article 9.9.1 have expired.

9.11.5 Warranties

Warranties required by the Contract Documents shall commence on the date of Completion of the entire Work. Warranty periods DO NOT commence at Substantial Completion or when a particular Subcontractor work is complete. No additional charges, extras, Change Orders, or Claims may be sought for warranties commencing from the Notice of Completion.

District shall have the right to utilize equipment, test, and operate as necessary for acclimation, or testing without voiding or starting warranties. Taking beneficial occupancy shall not start warranties except in the case where the District agrees, in writing, that warranties shall commence running or where the District is taking phased occupancy of specific buildings or areas and completes separate Punch Lists as further addressed in Article 4.2.7.

9.11.6 Time for Submission of Application for Final Payment and Retention Payment (Unilateral Processing of Final and Retention Payment Application).

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If Contractor submits a Final Payment Application which fails to include deductive items under Article 9.6, the District or Architect shall note this defective request for Final Payment Application. The Contractor shall be notified that specific deductive items shall be included in the Final Payment Application. If Contractor either continues to submit the Final Payment Application without deductive items under Article 9.6, or a period of 14 calendar days passes after Contractor is provided written notice of deductive items for inclusion in Final Payment Application, then District may either alter the Final Payment Application and recalculate the math on the Final Payment Application to address the Article 9.6 deductive items or process a unilateral Final Payment Application.

9.11.7 Unilateral Release of Retention

After the recordation of the Notice of Completion, or within sixty (60) days following the completion of the Punch List or the expiration of the time for completion of Punch List under Article 9.9.1, if Contractor does not make an Application for Release of Retention, the District may unilaterally release retention less any deducts under Article 9.6 and/or Article 2.2, withholds due to stop notices, or withholdings due to other defective Work on the Project. District may also choose to unilaterally release Retention after deduction of 150% of any disputed items, which may also include items under Article 9.6 and 2.2. If a deduction pursuant to Article 9.6 is made from Retention, a letter deducting specific valued items shall be considered a notice of Default under the terms of the Escrow Agreement.

9.12 SUBSTITUTION OF SECURITIES

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300 as set forth in the form contained in the Bid Documents.

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ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Contractor Responsibility

The Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and protection of all materials delivered and Work performed until completion and final acceptance by the District. All Work shall be solely at the Contractor's risk, with the exception of damage to the Work caused by "acts of God" as defined in Public Contract Code section 7105(b)(2).

Contractor shall take, and require Subcontractor to take, all necessary precautions for safety of workers on the Work and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. In addition to meeting all requirements of OSHA, Cal-OSHA, state, and local codes, Contractor shall furnish, erect and properly maintain at all times, as directed by District or Architect or required by conditions and progress of Work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created by such features in the course of construction. Contractor shall designate a responsible member of its organization on the Work, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety and health of workers. The name and position of person so designated shall be reported to District by Contractor. Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, such violation shall be corrected promptly.

10.1.2 Subcontractor Responsibility

Contractor shall require that Subcontractors participate in, and enforce, the safety and loss prevention programs established by the Contractor for the Project, which will cover all Work performed by the Contractor and its Subcontractors. Each Subcontractor shall designate a responsible member of its organization whose duties shall include loss and accident prevention, and who shall have the responsibility and full authority to enforce the program. This person shall attend meetings with the representatives of the various Subcontractors employed to ensure that all employees understand and comply with the programs.

10.1.3 Cooperation

All Subcontractors and material or equipment suppliers shall cooperate fully with Contractor, the District, and all insurance carriers and loss prevention engineers.

10.1.4 Accident Reports

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Subcontractors shall immediately, within two (2) days, report in writing to the Contractor all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on or off the Site, which caused death, personal injury, or property damage, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported within four (4) days by telephone or messenger. Contractor shall thereafter immediately, within two (2) days, report the facts in writing to the District and the Architect giving full details of the accident.

10.1.5 First-Aid Supplies at Site

The Contractor will provide and maintain at the Site first-aid supplies which complies with the current Occupational Safety and Health Regulations.

10.1.6 Material Safety Data Sheets and Compliance with Proposition 65

Contractor is required to have material safety data sheets available in a readily accessible place at the job site for any material requiring a material safety data sheet per the Federal "hazard communication" standard, or employees' "right-to-know law." The Contractor is also required to properly label any substance brought into the job site, and require that any person working with the material, or within the general area of the material, is informed of the hazards of the substance and follows proper handling and protection procedures.

Contractor is required to comply with the provisions of California Health and Safety Code section 25249, et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with the provisions of this Section, and to comply fully with its requirements.

10.1.7 Non-Utilization of Asbestos Material

NO ASBESTOS OR ASBESTOS-CONTAINING PRODUCTS SHALL BE USED IN THIS CONSTRUCTION OR IN ANY TOOLS, DEVICES, CLOTHING, OR EQUIPMENT USED TO EFFECT THIS CONSTRUCTION.

Asbestos and/or asbestos-containing products shall be defined as all items containing, but not limited to, chrysotile, amosite, anthophyllite, tremolite, and antinolite.

Any or all material containing greater than one-tenth of one percent (>.1%) asbestos shall be defined as asbestos-containing material.

All Work or materials found to contain asbestos or Work or material installed with asbestos-containing equipment will be immediately rejected and this Work will be removed at no additional cost to the District.

Decontamination and removal of Work found to contain asbestos or Work installed with asbestos-containing equipment shall be done only under supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency.

The asbestos removal contractor shall be an EPA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant, who shall have sole discretion and final determination in this matter.

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The asbestos consultant shall be chosen and approved by the District, who shall have sole discretion and final determination in this matter.

The Work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

Interface of Work under this Contract with Work containing asbestos shall be executed by the Contractor at his risk and at his discretion, with full knowledge of the currently accepted standards, hazards, risks, and liabilities associated with asbestos work and asbestos-containing products. By execution of this Contract, the Contractor acknowledges the above and agrees to hold harmless District and its assigns for all asbestos liability which may be associated with this work and agrees to instruct his employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor

The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:

- a. Employees on the Work and other persons who may be affected thereby;
- b. The Work, material, and equipment to be incorporated therein, whether in storage on or off the Site, under the care, custody, or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- c. Other property at the Site or adjacent thereto such as trees, shrubs, lawns, walks, pavement, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

Contractor is constructive owner of Project site as more fully discussed in Article 6.2.

10.2.2 Contractor Notices

The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury, or loss.

10.2.3 Safety Barriers and Safeguards

The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

10.2.4 Use or Storage of Hazardous Material

When use or storage of explosives, other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. The Contractor shall notify the District

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any time that explosives or hazardous materials are expected to be stored on Site. Location of storage shall be coordinated with the District and local fire authorities.

10.2.5 Protection of Work

The Contractor and Subcontractors shall continuously protect the Work, the District's property, and the property of others, from damage, injury, or loss arising in connection with operations under the Contract Documents. The Contractor and Subcontractors, at their own expense, shall make good any such damage, injury, or loss, except such as may be solely due to, or caused by, agents or employees of the District.

The Contractor, at Contractor's expense, will remove all mud, water, or other elements as may be required for the proper protection and prosecution of its Work.

Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations. All permits, licenses, or inspection fees required for such repair Work shall be obtained and paid for by Contractor.

10.2.6 Requirements for Existing Sites

Contractor shall (unless waived by the District in writing):

- a. When performing construction on existing sites, become informed and take into specific account the maturity of the students on the Site; and perform Work which may interfere with school routine before or after school hours, enclose working area with a substantial barricade, and arrange Work to cause a minimum amount of inconvenience and danger to students and faculty in their regular school activities. The Contractor shall comply with Specifications and directives of the District regarding the timing of certain construction activities in order to avoid unnecessary interference with school functioning.
- b. Avoid performing any Work that will disturb students during testing.
- c. Provide substantial barricades around any shrubs or trees indicated to be preserved.
- d. Deliver materials to building area over route designated by Architect.
- e. Take preventive measures to eliminate objectionable dust, noise, or other disturbances.
- f. Confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits or directions of Architect; and not interfere with the Work or unreasonably encumber premises or overload any structure with materials; and enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on the Project site.

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- g. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved land surveyor or civil engineer and all maps and records required therefrom shall be filed with county and local authorities, at no cost to the District. All filing and plan check fees shall be paid by Contractor.
- h. Provide District on request with Contractor's written safety program and safety plan for each site.

10.2.7 Shoring and Structural Loading

The Contractor shall not impose structural loading upon any part of the Work under construction or upon existing construction on or adjacent to the Site in excess of safe limits, or loading such as to result in damage to the structural, architectural, mechanical, electrical, or other components of the Work. The design of all temporary construction equipment and appliances used in construction of the Work and not a permanent part thereof, including, without limitation, hoisting equipment, cribbing, shoring, and temporary bracing of structural steel, is the sole responsibility of the Contractor. All such items shall conform with the requirements of governing codes and all laws, ordinances, rules, regulations, and orders of all authorities having jurisdiction. The Contractor shall take special precautions, such as shoring of masonry walls and temporary tie bracing of structural steel Work, to prevent possible wind damage during construction of the Work. The installation of such bracing or shoring shall not damage the Work in place or the Work installed by others. Any damage which does occur shall be promptly repaired by the Contractor at no cost to the District.

10.2.8 Conformance within Established Limits

The Contractor and Subcontractors shall confine their construction equipment, the storage of materials, and the operations of workers to the limits indicated by laws, ordinances, permits, and the limits established by the District or the Contractor, and shall not unreasonably encumber the premises with construction equipment or materials.

10.2.9 Subcontractor Enforcement of Rules

Subcontractors shall enforce the District's and the Contractor's instructions, laws, and regulations regarding signs, advertisements, fires, smoking, the presence of liquor, and the presence of firearms by any person at the Site.

10.2.10 Site Access

The Contractor and the Subcontractors shall use only those ingress and egress routes designated by the District, observe the boundaries of the Site designated by the District, park only in those areas designated by the District, which areas may be on or off the Site, and comply with any parking control program established by the District, such as furnishing license plate information and placing identifying stickers on vehicles.

10.2.11 Security Services.

The Contractor shall be responsible for providing security services for the Site as needed for the protection of the Site and as determined in the District's sole discretion.

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10.3 EMERGENCIES

10.3.1 Emergency Action

In an emergency affecting the safety of persons or property, the Contractor shall take any action necessary, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 7.

10.3.2 Accident Reports

The Contractor shall promptly report in writing to the District all accidents arising out of or in connection with the Work, which caused death, personal injury, or property damage, giving full details and statements of any witnesses in conformance with Article 10.1.4. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported in accordance with Article 10.1.4, immediately by telephone or messenger to the District.

10.4 HAZARDOUS MATERIALS

10.4.1 Discovery of Hazardous Materials

In the event the Contractor encounters or suspects the presence on the job site of material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or any other material defined as being hazardous by § 25249.5 of the California Health and Safety Code, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the District and the Architect in writing, whether or not such material was generated by the Contractor or the District. The Work in the affected area shall not thereafter be resumed, except by written agreement of the District and the Contractor, if in fact the material is asbestos, polychlorinated biphenyl (PCB), or other hazardous material, and has not been rendered harmless. The Work in the affected area shall be resumed only in the absence of asbestos, polychlorinated biphenyl (PCB), or other hazardous material, or when it has been rendered harmless by written agreement of the District and the Contractor.

10.4.2 Hazardous Material Work Limitations

In the event that the presence of hazardous materials is suspected or discovered on the Site (except in cases where asbestos and other hazardous material Work in the Contractor's responsibility), the District shall retain an independent testing laboratory to determine the nature of the material encountered and whether corrective measures or remedial action is required. The Contractor shall not be required pursuant to Article 7 to perform without consent any Work in the affected area of the Site relating to asbestos, polychlorinated biphenyl (PCB), or other hazardous material, until any known or suspected hazardous material has been removed, or rendered harmless, or determined to be harmless by District, as certified by an independent testing laboratory and approved by the appropriate government agency.

10.4.3 Indemnification by Contractor for Hazardous Material Caused by Contractor

In the event the hazardous materials on the Project Site is caused by the Contractor, the Contractor shall pay for all costs of testing and remediation, if any, and shall compensate the District for any additional costs incurred as a result of Contractor's generation of hazardous material on the Project Site. In addition, the Contractor shall defend, indemnify and hold harmless District and its agents,

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officers, and employees from and against any and all claims, damages, losses, costs and expenses incurred in connection with, arising out of, or relating to, the presence of hazardous material on the Project Site.

10.4.4 Terms of Hazardous Material Provision

The terms of this Hazardous Material provision shall survive the completion of the Work and/or any termination of this Contract.

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ARTICLE 11 INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 Insurance Requirements

Before the commencement of the Work, the Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in California with a financial rating of at least an A-VIII status as rated in the most recent edition of Best's Insurance Reports or as amended by the Supplementary General Conditions, such insurance as will protect the District from claims set forth below, which may arise out of or result from the Contractor's Work under the Contract and for which the Contractor may be legally liable, whether such Work are by the Contractor, by a Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Any required insurance shall not contain any exclusion that applies to the type of work performed by the Contractor under the Contract Documents.

- a. Claims for damages because of bodily injury, sickness, disease, or death of any person District would require indemnification and coverage for employee claim;
- b. Claims for damages insured by usual personal injury liability coverage, which are sustained by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or by another person;
- c. Claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents;
- d. Claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work;
- e. Claims involving contractual liability applicable to the Contractor's obligations under the Contract Documents, including liability assumed by and the indemnity and defense obligations of the Contractor and the Subcontractors; and
- f. Claims involving Completed Operations, Independent Contractors' coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. (XCU)
- g. Claims involving sudden or accidental discharge of contaminants or pollutants.

11.1.2 Specific Insurance Requirements

Contractor shall take out and maintain and shall require all Subcontractors, if any, whether primary or secondary, to take out and maintain:

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Comprehensive General Liability Insurance with a combined single limit per occurrence of not less than \$2,000,000.00 or Commercial General Liability Insurance which provides limits of not less than:

- (a) Per occurrence (combined single limit)..... \$2,000,000.00
- (b) Project Specific Aggregate (for this Project only)..... \$2,000,000.00
- (c) Products and Completed Operations (aggregate) \$2,000,000.00
- (d) Personal and Advertising Injury Limit \$1,000,000.00

Insurance Covering Special Hazards

The following Special hazards shall be covered by riders or riders to above mentioned public liability insurance or property damage insurance policy or policies of insurance, in amounts as follows:

- (a) Automotive and truck where operated in amounts \$1,000,000.00
- (b) Material Hoist where used in amounts \$1,000,000.00
- (c) Explosion, Collapse and Underground
(XCU coverage)..... \$1,000,000.00
- (d) Hazardous Materials \$1,000,000.00

In addition, provide Excess Liability Insurance coverage in the amount of Four Million Dollars (\$4,000,000.00).

11.1.3 Subcontractor Insurance Requirements

The Contractor shall require its Subcontractors to take out and maintain public liability insurance and property damage insurance required under Article 11.1 in like amounts. A “claims made” or modified “occurrence” policy shall not satisfy the requirements of Article 11.1 without prior written approval of the District.

11.1.4 Additional Insured Endorsement Requirements

The Contractor shall name, on any policy of insurance required under Article 11.1, the District, CM, Architect, Inspector, the State of California, their officers, employees, agents, volunteers and independent contractors as additional insureds. Subcontractors shall name the Contractor, the District, Architect, Inspector, the State of California, their officers, employees, agents, volunteers and independent contractors as additional insureds. The Additional Insured Endorsement included on all such insurance policies shall be an ISO CG 20 10 (04/13), or an ISO CG 20 38 (04/13), or their equivalent as determined by the District in its sole discretion, and must state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the additional insureds have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor pursuant to 11.1 must be

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designated in the policy as primary to any insurance obtained by the District. The amount of the insurer's liability shall not be reduced by the existence of such other insurance.

11.2 WORKERS' COMPENSATION INSURANCE

During the term of this Contract, the Contractor shall provide workers' compensation and employer's liability insurance for all of the Contractor's employees engaged in Work under this Contract on or at the Site of the Project and, in case any of the Contractor's Work is subcontracted, the Contractor shall require the Subcontractor to provide workers' compensation insurance for all the Subcontractor's employees engaged in Work under the subcontract. Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in Work under this Contract on or at the Site of the Project is not protected under the Workers' Compensation laws, the Contractor shall provide or cause a Subcontractor to provide insurance coverage for the protection of those employees not otherwise protected. The Contractor shall file with the District certificates of insurance as required under Article 11.6 and in compliance with Labor Code § 3700.

Workers' compensation limits as required by the Labor Code, but not less than \$1,000,000 and employers' liability limits of \$1,000,000 per accident for bodily injury or disease.

11.3 BUILDER'S RISK/ "ALL RISK" INSURANCE

11.3.1 Course-of-Construction Insurance Requirements

The Contractor, during the progress of the Work and until final acceptance of the Work by District upon completion of the entire Contract, shall maintain Builder's Risk, Course of Construction or similar first party property coverage issued on a replacement cost value basis consistent with the total replacement cost of all insurable Work and the Project included within the Contract Documents. Coverage is to insure against all risks of accidental direct physical loss, and must include, by the basic grant of coverage or by endorsement, the perils of vandalism, malicious mischief (both without any limitation regarding vacancy or occupancy), fire, sprinkler leakage, civil authority, sonic boom, earthquake, flood, collapse, wind, lightning, smoke and riot. The coverage must include debris removal, demolition, increased costs due to enforcement of building ordinance and law in the repair and replacement of damage and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project which is the subject of the Contract Documents, including completed Work and Work in progress, to the full insurable value thereof. Such insurance shall include the District and the Architect as additional named insureds, and any other person with an insurable interest as designated by the District.

The Contractor shall submit to the District for its approval all items deemed to be uninsurable. The risk of the damage to the Work due to the perils covered by the "Builder's Risk/All Risk" Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and the Surety, and no Claims for such loss or damage shall be recognized by the District nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

11.4 FIRE INSURANCE

Before the commencement of the Work, the Contractor shall procure, maintain, and cause to be maintained at the Contractor's expense, fire insurance on all Work subject to loss or damage by fire.

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The amount of fire insurance shall be sufficient to protect the Project against loss or damage in full until the Work is accepted by the District. This requirement may be waived upon confirmation by the District that such coverage is provided under the Builder's Risk Insurance being provided.

11.5 AUTOMOBILE LIABILITY

11.5.1 The District, Architect and Construction Manager, Inspectors, their directors, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Contractor or for which the Contractor is responsible. Such insurance coverage shall be primary and non-contributory insurance as respects the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers shall be excess of the Contractor's insurance and shall not be called upon to contribute with it. The insurer shall agree to waive all rights of subrogation against the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy that arise from Work performed by the Contractor.

11.5.2 Insurance Services Office Business Auto Coverage Form Number CA 0001, Code 1 (any auto) is required. Comprehensive Automobile Liability insurance to include all autos, owned, non-owned, and hired, with limits of \$1,000,000 per accident for bodily injury and property damage.

11.6 OTHER INSURANCE

The Contractor shall provide all other insurance required to be maintained under applicable laws, ordinances, rules, and regulations.

11.7 PROOF OF INSURANCE

The Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract until all required insurance and certificates have been obtained and delivered in duplicate to the District for approval subject to the following requirements:

- a. Certificates and insurance policies shall include the following clause:

“This policy and any coverage shall not be suspended, voided, non-renewed, canceled, or reduced in required limits of liability or amounts of insurance or coverage until notice has been mailed via certified mail to the District. Date of cancellation or reduction may not be less than thirty (30) days after the date of mailing notice.”

- b. Certificates of insurance shall state in particular those insured, the extent of insurance, location and operation to which the insurance applies, the expiration date, and cancellation and reduction notices.

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- c. Certificates of insurance shall clearly state that the District and the Architect are named as additional insureds under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by District.
- d. The Contractor and its Subcontractors shall produce a certified copy of any insurance policy required under this Section upon written request of the District.

11.8 COMPLIANCE

In the event of the failure of Contractor to furnish and maintain any insurance required by this Article 11, the Contractor shall be in default under the Contract. Compliance by Contractor with the requirement to carry insurance and furnish certificates or policies evidencing the same shall not relieve the Contractor from liability assumed under any provision of the Contract Documents, including, without limitation, the obligation to defend and indemnify the District and the Architect.

11.9 WAIVER OF SUBROGATION

Contractor waives (to the extent permitted by law) any right to recover against the District for damages to the Work, any part thereof, or any and all claims arising by reason of any of the foregoing, but only to the extent that such damages and/or claims are covered by property insurance and only to the extent of such coverage (which shall exclude deductible amounts) by insurance actually carried by the District.

The provisions of this Article are intended to restrict each party to recovery against insurance carriers only to the extent of such coverage and waive fully and for the benefit of each, any rights and/or claims which might give rise to a right of subrogation in any insurance carrier. The District and the Contractor shall each obtain in all policies of insurance carried by either of them, a waiver by the insurance companies thereunder of all rights of recovery by way of subrogation for any damages or claims covered by the insurance.

11.10 PERFORMANCE AND PAYMENT BONDS

11.10.1 Bond Requirements

Unless otherwise specified in the Supplemental Conditions, prior to commencing any portion of the Work, the Contractor shall furnish separate Payment and Performance Bonds for its portion of the Work which shall cover 100% faithful performance of and payment of all obligations arising under the Contract Documents and/or guaranteeing the payment in full of all claims for labor performed and materials supplied for the Work. All bonds shall be provided by a corporate Surety authorized and admitted to transact business in California as sureties.

To the extent, if any, that the Contract Price is increased in accordance with the Contract Documents, the Contractor shall, upon request of the District, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the District. To the extent available, the bonds shall further provide that no change or alteration of the Contract Documents (including, without limitation, an increase in the Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor will release the Surety. If the Contractor fails to furnish the required bonds, the District may terminate the Contract for cause.

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11.10.2 Surety Qualification

Only bonds executed by admitted Surety insurers as defined in Code of Civil Procedure § 995.120 shall be accepted. Surety must be a California-admitted Surety and listed by the U.S. Treasury with a bonding capacity in excess of the Project cost.

11.10.3 Alternate Surety Qualifications

If a California-admitted Surety insurer issuing bonds does not meet these requirements, the insurer will be considered qualified if it is in conformance with § 995.660 of the California Code of Civil Procedure and proof of such is provided to the District.

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ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

12.1 COMPLIANCE WITH TITLE 24 INSTALLATION REQUIREMENTS

Contractor is aware of the requirements governing Contractor's Work under title 24 Section 4-343 which provides, in pertinent part:

4-343. Duties of the Contractor.

(a) **Responsibilities.** It is the duty of the contractor to complete the Work covered by his or her contract in accordance with the approved Plans and Specifications therefore. The contractor in no way is relieved of any responsibility by the activities of the architect, engineer, Inspector or DSA in the performance of such duties.

(b) **Performance of the Work.** The contractor shall carefully study the approved Plans and Specifications and shall plan a schedule of operations well ahead of time. If at any time it is discovered that Work is being done which is not in accordance with the approved Plans and Specifications, the contractor shall correct the Work immediately. All inconsistencies or items which appear to be in error in the Plans and Specifications shall be promptly called to the attention of the architect or registered engineer, through the Inspector, for interpretation or correction. In no case, however, shall the instruction of the architect or registered engineer be construed to cause Work to be done which is not in conformity with the approved Plans, Specifications, and Change Orders. The contractor must notify the Project Inspector, in advance, of the commencement of construction of each and every aspect of the Work.

12.1.1 Issuance of Notices of Non-Compliance

The Inspector may issue a Notice of Non-Compliance on the Project indicating deviation from Plans and Specifications. It is Contractor's responsibility to correct all deviations from the approved Plans and Specifications unless the District has issued an Immediate Change Directive. In such case, the Contractor shall proceed with the Work with the understandings of the District as set forth in the ICD and as specifically noted in Article 7.3.

12.2 SPECIAL NOTICE OF AMERICAN'S WITH DISABILITIES ACT

Some of the requirements in the Plans and Specifications are meant to comply with the Americans with Disabilities Act ("ADA"). The requirements of the ADA are technical in nature and may appear to be minor in nature (i.e. whether a walkway or ramp has a 2% cross-slope). Contractor is warned that even the slightest deviation from the specific requirements from the ADA is considered a Civil Rights violation and subjects the District to fines of three times actual damages sustained by a handicap individual or up to \$4,000 per violation and attorney's fees required to enforce the ADA violation. As a result of the significant liability and exposure associated with ADA aspects of the Contract, Contractor shall take special care to meet all ADA requirements detailed in the Plans and Specifications. Failure to comply with ADA rules that results in a Notice of Non-Compliance shall be repaired to meet ADA requirements promptly. In addition, any ADA violations that are not identified by Inspector or Architect that are later identified shall be repaired and charged back to the Contractor through a Deductive Change Order.

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12.2.1 Indemnification of ADA Claims

Contractor shall indemnify, hold harmless and defend the District from ADA claims arising from the failure to comply with the Plans and Specifications. Further, any withholdings for ADA violations under Article 9.6 shall include potential redesign costs and an accelerated repair costs due to the potential for ADA claims arising from DSA posting of ADA violations on the Project.

12.3 UNCOVERING OF WORK

12.3.1 Uncovering Work for Required Inspections

Work shall not be covered without the Inspector's review and the Architect's knowledge that the Work conforms with the requirements of the approved Plans and Specifications (except in the case of an ICD under Article 7.3). Inspector must be timely notified of inspections and of new areas so Work can be inspected at least 48 hours before opening a new area (For example, see DSA Form 156 for Commencement/Completion of Work Notification which requires "at least 48 hour" advance notification of a new area). An Inspector must comply with DSA protocols for signing each category or phase of Work under DSA Form 152 (in compliance with the Form 152 Manual) or a Notice of Deviation (DSA Form 154) will be issued requiring the Work that was not inspected be uncovered for inspection. Thus, if a portion of the Work is covered without inspection or Architect approval, is subject to a Notice of Non-Compliance for being undertaken without inspection, or otherwise not in compliance with the Contract Documents, after issuance of a Written Notice of Non-Compliance (Form 154) or a written notice to uncover Work, Contractor shall promptly uncover all Work (which includes furnishing all necessary facilities, labor, and material) for the Inspector's or the Architect's observation and such Work shall be replaced at the Contractor's expense without change in the Contract Sum or Time.

12.3.2 Costs for Inspections Not Required

If a portion of the Work has been covered is believed to be Non-Conforming to the Plans and Specifications, even if the Form 152 for the category of Work has been signed by the Inspector, the Inspector or the Architect may request to see such Work, and it shall be promptly uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncover and replacement shall, by appropriate Change Order and shall, be charged to the District. If such Work is not in accordance with Contract Documents, the Contractor shall be responsible for all costs to uncover the Work, delays incurred to uncover the Work, and Contractor shall pay all costs to correct the Non-Conforming construction condition unless the condition was caused by the District or a separate contractor, in which event the District shall be responsible for payment of such costs to the Contractor.

12.4 CORRECTION OF WORK

12.4.1 Correction of Rejected Work

The Contractor shall promptly correct the Work rejected by the Inspector or the District upon recommendation of the Architect as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not Fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including cost for delays that may be incurred by Contractor or Subcontractors, the cost for additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby (including costs for preparing a CCD, DSA CCD review fees, and additional inspection and special inspection costs).

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12.4.2 Two-Year Warranty Corrections

If, within two (2) years after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established under Article 9.9.1, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so unless the District has previously given the Contractor a written acceptance of such condition. This period of two (2) years shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation under this Article 12.4.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

12.4.3 District's Rights if Contractor Fails to Correct

If the Contractor fails to correct nonconforming Work within a reasonable time, the District may correct the Work and seek a Deductive Change Order, pursuant to Article 9.6 or Article 2.2.

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ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located.

13.2 SUCCESSORS AND ASSIGNS

The District and the Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.3 WRITTEN NOTICE

In the absence of specific notice requirements in the Contract Documents, written notice shall be deemed to have been duly served if delivered in person to the individual, member of the firm or entity, or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

13.4 RIGHTS AND REMEDIES

13.4.1 Duties and Obligations Cumulative

Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

13.4.2 No Waiver

No action or failure to act by the Inspector, the District, or the Architect shall constitute a waiver of a right or duty afforded them under the Contract Documents, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

13.5 TESTS AND INSPECTIONS

13.5.1 Compliance

Tests, inspections, and approvals of portions of the Work required by the Contract Documents will comply with Division 1, Title 24, and with all other laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction.

13.5.2 Independent Testing Laboratory

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The District will select and pay an independent testing laboratory to conduct all tests and inspections. Selection of the materials required to be tested shall be made by the laboratory or the District's representative and not by the Contractor. See Articles 3.13.1 and 4.3.6 regarding costs or expenses of inspection or testing outside of the Project Site.

13.5.3 Advance Notice to Inspector

The Contractor shall notify the Inspector a sufficient time in advance of its readiness for required observation or inspection so that the Inspector may arrange for same. The Contractor shall notify the Inspector a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents which must, by terms of the Contract Documents, be tested in order that the Inspector may arrange for the testing of the material at the source of supply.

13.5.4 Testing Off-Site

Any material shipped by the Contractor from the source of supply, prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said Inspector that such testing and inspection will not be required, shall not be incorporated in the Work.

13.5.5 Additional Testing or Inspection

If the Inspector, the Architect, the District, or public authority having jurisdiction determines that portions of the Work require additional testing, inspection, or approval not included under Article 13.5.1, the Inspector will, upon written authorization from the District, make arrangements for such additional testing, inspection, or approval. The District shall bear such costs except as provided in Articles 13.5.6 and 13.5.7.

13.5.6 Costs for Retesting

If such procedures for testing, inspection, or approval under Articles 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs arising from such failure, including those of re-testing, re-inspection, or re-approval, including, but not limited to, compensation for the Architect's services and expenses. Any such costs shall be paid by the District, invoiced to the Contractor, and deducted from the next Progress Payment.

13.5.7 Costs for Premature Test

In the event the Contractor requests any test or inspection for the Project and is not completely ready for the inspection, the Contractor shall be invoiced by the District for all costs and expenses resulting from that testing or inspection, including, but not limited to, the Inspector's and Architect's fees and expenses, and the amount of the invoice shall be deducted from the next Progress Payment.

13.6 TRENCH EXCAVATION

13.6.1 Trenches Greater Than Five Feet

Pursuant to Labor Code section 6705, if the Contract Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of

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excavation, submit to the District or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

13.6.2 Excavation Safety

If such plan varies from the Shoring System Standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but in no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

13.6.3 No Tort Liability of District

Pursuant to Labor Code § 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

13.6.4 No Excavation without Permits

The Contractor shall not commence any excavation Work until it has secured all necessary permits including the required CAL OSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

13.7 WAGE RATES, TRAVEL, AND SUBSISTENCE

13.7.1 Wage Rates

Pursuant to the provisions of Article 2 (commencing at § 1720), Chapter 1, Part 7, Division 2, of the Labor Code, the District has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public works project is to be performed for each craft, classification, or type of worker needed for this Project from the Director of the Department of Industrial Relations (“Director”). These rates are on file at the administrative office of the District and are also available from the Director of the Department of Industrial Relations. Copies will be made available to any interested party on request. The Contractor shall post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Site.

Any worker employed to perform Work on the Project, but such Work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.

13.7.2 Holiday and Overtime Pay

Holiday and overtime work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the Contract Documents or authorized by law.

13.7.3 Wage Rates Not Affected by Subcontracts

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The Contractor shall pay and shall cause to be paid each worker engaged in the execution of the Work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such workers.

13.7.4 Per Diem Wages

The Contractor shall pay and shall cause to be paid to each worker needed to execute the Work on the Project per diem wages including, but not limited to, employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided for in Labor Code §1773.1.

13.7.5 Forfeiture and Payments

Pursuant to Labor Code §1775, the Contractor shall forfeit to the District, not more than Two Hundred Dollars (\$200.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing wages rates as determined by the Director of the Department of Industrial Relations, for the work or craft in which the worker is employed for any Work done under the Agreement by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commissioner and shall be based on consideration of: (1) whether the Contractor or Subcontractor's failure to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily correct upon being brought to the attention of the Contractor or Subcontractor; and (2) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations.

13.7.6 Monitoring and Enforcement by Labor Commissioner

Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE). The Contractor and all subcontractors shall be required to furnish, at least monthly, certified payroll records directly to the Labor Commissioner in accordance with Labor Code section 1771.4. All payroll records shall be furnished in a format required by the Labor Commissioner. The Contractor and all subcontractors must sign up for, and utilize, the Labor Commissioner's electronic certified payroll records submission system. The District will have direct and immediate access to all CPRs for the Project that are submitted through the Labor Commissioner's system. The District can use this information for any appropriate purpose, including monitoring compliance, identifying suspected violations, and responding to Public Records Act requests.

The Labor Commissioner/ DLSE may conduct various compliance monitoring and enforcement activities including, but not limited to, confirming the accuracy of payroll records, conducting worker interviews, conducting audits, requiring submission of itemized statements prepared in accordance with Labor Code section 226, and conducting random in-person inspections of the Project site ("On-Site Visits"). On-Site Visits may include inspections of records, inspections of the Work site and observation of work activities, interviews of workers and others involved with the Project, and any other activities deemed necessary by the Labor Commissioner/DLSE to ensure compliance with prevailing wage requirements. The Labor Commissioner/DLSE shall have free access to any construction site or other place of labor and may obtain any information or statistics pertaining to the lawful duties of the Labor Commissioner/DLSE.

Any lawful activities conducted or any requests made by the Labor Commissioner/DLSE shall not be the basis for any delays, claims, costs, damages or liability of any kind against the District by

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the Contractor. Contractor and all subcontractors shall cooperate and comply with any lawful requests by the Labor Commissioner/ DLSE. The failure of the Labor Commissioner, DLSE, or any other entity related to the Department of Industrial Relations to comply with any requirement imposed by the California Code of Regulations, Title 8, Chapter 8 shall not of itself constitute a defense to the failure to pay prevailing wages or to comply with any other obligation imposed by Division 2, Part 7, Chapter 1 of the Labor Code.

Prior to commencing any Work on the Project, the Contractor shall post the required notice/poster required under the California Code of Regulations and Labor Code section 1771.4 in both English and Spanish at a conspicuous, weatherproof area at the Project site. The required notice/poster is available on the Labor Commissioner's website.

13.8 RECORDS OF WAGES PAID

13.8.1 Payroll Records

- a. Pursuant to §1776 of the Labor Code, the Contractor and each Subcontractor shall keep an accurate payroll record showing the name, address, social security number, work classification and straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by him or her in connection with the Project.

All payroll records as specified in Labor Code §1776 of the Contractor and all Subcontractors shall be certified and furnished directly to the Labor Commissioner in accordance with Labor Code §1771.4(a)(3) on a monthly basis (or more frequently if required by the District or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. Payroll records as specified in Labor Code §1776 shall be certified and submitted to the District with each application for payment. All payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of District, the Division of Labor Standards Enforcement or the Division of Apprenticeship Standards of the Department of Industrial Relations.
3. A certified copy of all payroll records shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Paragraph (2) above, the requesting party shall, prior to being provided the records, reimburse the costs, according to law for the preparation by the Contractor, Subcontractor(s), and the entity through

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which the request was made. The public shall not be given access to such records at the principal office of the Contractor.

- b. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the Division of Labor Standards Enforcement.
- c. The Contractor or Subcontractor(s) shall file a certified copy of all payroll records with the entity that requested such records within 10 calendar days after receipt of a written request.
- d. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or the Subcontractor(s) performing the Contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number. Notwithstanding any other provision of law, agencies that are included in the Joint Enforcement Strike Force on the Underground Economy established pursuant to Section 329 of the Unemployment Insurance Code and other law enforcement agencies investigating violations of law shall, upon request, be provided non-redacted copies of certified payroll records.
- e. The Contractor shall inform the District of the location of all payroll records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
- f. The Contractor or Subcontractor(s) shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting payroll records. In the event that the Contractor or Subcontractor(s) fails to comply within the 10-day period, the Contractor or Subcontractor(s) shall, as a penalty to the District, forfeit One Hundred Dollars (\$100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

Responsibility for compliance with this Article shall rest upon the Contractor.

13.8.2 Withholding of Contract Payments & Penalties

The District may withhold or delay contract payments to the Contractor and/or any Subcontractor if:

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- a. The required prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations is not paid to all workers employed on the Project; or
- b. The Contractor or Subcontractor(s) fail to submit all required certified payroll records with each application for payment, but not less than once per month; or
- c. The Contractor or Subcontractor(s) submit incomplete or inadequate payroll records; or
- d. The Contractor or Subcontractor(s) fail to comply with the Labor Code requirements concerning apprentices; or
- e. The Contractor or Subcontractor(s) fail to comply with any applicable state laws governing workers on public works projects.

13.9 APPRENTICES

13.9.1 Apprentice Wages and Definitions

All apprentices employed by the Contractor to perform services under the Contract shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which he or she is employed, and as determined by the Director of the Department of Industrial Relations, and shall be employed only at the craft or trade to which he or she is registered. Only apprentices, as defined in §3077 of the Labor Code, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprenticeship agreements under Chapter 4 (commencing with §3070) of Division 3, are eligible to be employed under this Contract. The employment and training of each apprentice shall be in accordance with the apprenticeship standards and apprentice agreements under which he or she is training, or in accordance with the rules and regulations of the California Apprenticeship Council.

13.9.2 Employment of Apprentices

Contractor agrees to comply with the requirements of Labor Code §1777.5. The Contractor awarded the Project, or any Subcontractor under him or her, when performing any of the Work under the Contract or subcontract, employs workers in any apprenticeable craft or trade, the Contractor and Subcontractor shall employ apprentices in the ratio set forth in Labor Code §1777.5. The Contractor or any Subcontractor must apply to any apprenticeship program in the craft or trade that can provide apprentices to the Project site for a certificate approving the contractor or subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or Subcontractor upon the Contractor's or Subcontractor's request. "Apprenticeable craft or trade" as used in this Article means a craft or trade determined as an apprenticeable occupation in accordance with the rules and regulations prescribed by the California Apprenticeship Council. The ratio of work performed by apprentices to journeyman employed in a particular craft or trade on the Project shall be in accordance with Labor Code §1777.5.

13.9.3 Submission of Contract Information

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Prior to commencing Work on the Project, the Contractor and Subcontractors shall submit contract award information to the applicable apprenticeship program(s) that can supply apprentices to the Project and make the request for the dispatch of apprentices in accordance with the Labor Code. The information submitted shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the District if requested. Within 60 days after concluding Work on the Project, the Contractor and Subcontractors shall submit to the District, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Project.

13.9.4 Apprentice Fund

The Contractor or any Subcontractor under him or her, who, in performing any of the Work under the Contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the Director determines is the prevailing amount of apprenticeship training contributions in the area of the Project. The Contractor and Subcontractors may take as a credit for payments to the California Apprenticeship Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the Project. The Contractor and Subcontractors may add the amount of the contributions in computing his or her bid for the Contract.

13.9.5 Prime Contractor Compliance

The responsibility of compliance with Article 13 and §1777.5 of the Labor Code for all apprenticeable occupations is with the Prime Contractor. Any Contractor or Subcontractor that knowingly violates the provisions of this Article or Labor Code §1777.5 shall be subject to the penalties set forth in Labor Code §1777.7.

13.10 ASSIGNMENT OF ANTITRUST CLAIMS

13.10.1 Application

Pursuant to Government Code § 4551, 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 District 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. § 15) or under the Cartwright Act (Chapter 2 [commencing with § 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase 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 Retention Payment to the Contractor, without further acknowledgment by the parties. If the District receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Chapter 11 (commencing with § 4550) of Division 5 of Title 1 of the Government Code, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

13.10.2 Assignment of Claim

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Upon demand in writing by the assignor, the District shall, within one (1) year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose and the District has not been injured thereby or the District declines to file a court action for the cause of action.

13.11 STATE AND DISTRICT CONDUCTED AUDITS

Pursuant to and in accordance with the provisions of Government Code § 10532, or any amendments thereto, all books, records, and files of the District, the Contractor, or any Subcontractor connected with the performance of this Contract involving the expenditure of state funds in excess of Ten Thousand Dollars (\$10,000.00), including, but not limited to, the administration thereof, shall be subject to the examination and audit of the Office of the Auditor General of the State of California for a period of five (5) years after Retention Payment is made or a Notice of Completion is Recorded, whichever occurs first. Contractor shall preserve and cause to be preserved such books, records, hard drives, electronic media, and files for the audit period.

Pursuant to the remedies under Public Contract Code section 9201 and Government Code section 930.2, Contractor, through execution of this Agreement, also agrees the District shall have the right to review and audit, upon reasonable notice, the books and records of the Contractor concerning any monies associated with the Project. The purpose of this "Audit" is to quickly and efficiently resolve Disputes based on the actual costs incurred and to reduce the uncertainty in resolving Disputes with limited information. The District shall perform any audits at its own cost and any such audit shall be performed by an independent auditor, having no direct or indirect relationship with the functions or activities being audited or with the business conducted by the Contractor or District. In the event the independent auditor determines that Change Orders, response to Request for Proposals, Claims, Appeal of Claims, or other requests for payment are in error, or have has any other concerns or questions, the Auditor shall report the results of the Audit findings to the District and provide a copy to the Contractor after giving the District Board the opportunity for at least 10 days review. If the Contractor disputes the findings of the independent auditor, such dispute shall be handled in the manner set forth under Article 4.6.2 entitled Disputes.

If Contractor having agreed to the terms of this Contract fails to produce books or records requested by Auditor, such failure to produce books or records that were required to be preserved for audit, it shall be presumed that the information contained in the withheld books or records were unfavorable to the Contractor and the Auditor shall note this refusal in the results of the Audit findings for further evaluation by the District and the District's Board. The refusal to release records that are concerning monies associated with the Project may be used as a grounds to debar the Contractor under Article 15 for failure to preserve records under Article 13.11 and the failure to produce required audit records may also be used as a grounds for a negative finding against the Contractor depending on the significance of the records that are withheld by Contractor. Failure to produce job cost data tied to job cost categories and budgets shall be presumed an intentional failure to produce key audit records. Similarly, failure to produce Daily Reports (prepared at or near the time of the Work actually took place (See Article 3.16) shall be presumed an intentional failure to produce key audited records.

If Contractor is seeking costs for inefficiency, home office overhead, or unanticipated increased costs due to delays or acceleration, Contractor shall also produce copies of the original bid tabulation utilized in submitting Contractor's bid for the Project. This document shall be considered confidential and shall not be subject to disclosure through a Public Records Act and shall not be distributed to anyone other than the District and the District's counsel. This bid tabulation shall only be used in litigation, arbitration, evaluation of Claims or Disputes, Audit, and trial. If the records for the bid

GENERAL CONDITIONS

tabulation are kept on a computer, the Contractor shall also produce all metadata (in native format) that accompanies the bid tabulation for inspection to prove the authenticity of the underlying bid tabulation. Failure to produce the bid tabulation for review of inefficiency, home office overhead, or unanticipated increased costs due to delays or accelerations shall be considered material evidence that the bid tabulation was not favorable to the Contractor. This evidence shall be entered as a jury instruction for trial that the bid tabulation was not produced and the bid tabulation information was unfavorable to the Contractor. The evidence may also be used in debarment proceedings, and noted as an exception to an Audit findings.

Upon notification of Contractor concerning the results of the audit and a reasonable time has passed for Contractor to respond to the Audit findings and if either there is no Dispute of the Audit findings under Article 4.6 or if the result after utilizing the Disputes Clause confirms the Audit findings, the District may seek reimbursement for overstated Claims, Change Orders, or Appeal of Claims and may also undertake debarment proceedings under Article 15 of these General Conditions.

13.12 STORM WATER POLLUTION PREVENTION

13.12.1 Application

This Section addresses the preparation, implementation and monitoring of a Storm Water Pollution Prevention Plan (SWPPP) for the purpose of preventing the discharge of pollutants from the construction site. This includes the elimination of pollution discharges such as improper dumping, spills or leakage from storage tanks or transfer areas. The District will not issue a Notice to Proceed until Contractor has prepared by a qualified individual and obtained approval of the Permit Registration Documents (“PRDs”) that include a Notice of Intent, Construction Risk Calculation, Site Map, SWPPP, Annual Fee and any additional required documents from all applicable Local Governing Agencies including the Regional Water Quality Control Board. The Contractor shall also secure a certification that the Project has met all of the conditions of the General Construction Activity Storm Water Permit (GCASP) and comply with all applicable local, state and federal regulations governing storm water pollution prevention.

13.12.2 References and Materials

- California Stormwater Quality Association New Development and Redevelopment Best Management Practice Handbook
- 2009 California Stormwater Quality Association Construction BMP Handbook .
- State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbing Activities. Available on-line at:
- http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml. - Use materials of a class, grade and type needed to meet the performance described in the BMP Handbook.

13.12.3 Preparation and Approval

The Contractor shall prepare by a qualified individual the PRDs that include a Notice of Intent, Construction Risk Calculation, Site Map, SWPPP, Annual Fee and any additional required documents. The Contractor’s Qualified SWPPP Developer (“QSD”) shall prepare the Storm Water

GENERAL CONDITIONS

Pollution Prevention Plan (SWPPP) as required to comply with storm water pollution regulations for project sites with storm water discharges associated with construction activity such as clearing or demolition, grading, excavation and other land disturbances. The SWPPP shall apply to all areas that are directly related to construction activity, including but not limited to staging areas, storage yards, material borrow areas, and access roads.

13.12.3.1 The Contractor shall prepare and submit to the Local Governing Agencies and the District the SWPPP for review and approval if the project sites, new or existing, with land disturbance of 1 or more acres (or less than 1 acres if part of a common plan of development); the construction activity that results in land surface disturbances of less than one acre is part of a larger common plan of development or sale of one or more acres of disturbed land surface; or the construction activity associated with Linear Underground/Overhead Projects ("LUPs") including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

13.12.3.2 The Contractor shall also pay annual renewal fee(s) until the contract is completed and make all such checks payable to the State Water Resources Control Board. The Notice of Intent must be submitted at least two weeks prior to the commencement of construction activities.

13.12.3.3 The Contractor shall prepare the SWPPP by following the format in Sections 2, 3, 4 and Appendices A through F of the California Stormwater BMP Handbook - Construction, January 2009 edition, published by the California Stormwater Quality Association. The publication is available from:

California Stormwater
Quality Association
P.O. Box 2105
Menlo Park, CA 94026-2105
Phone: (650) 366-1042
E-mail: info@casqa.org

or

<https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx>

13.12.3.4 Where land disturbance is less than 1 acre, any BMPs indicated in the BMP Handbook needed to prevent or minimize storm water pollution shall be implemented at no extra cost to the District.

13.12.3.5 Within two weeks after Award of Contract by the District, the Contractor shall submit to the District's Civil Engineer one copy of the PRDs including the SWPPP for review. After the District's approval, the Contractor shall provide approved copies of the SWPPP as follows: one copy each to the Project Inspector, Construction Manager, Architect, Commissioned Architect and District's Civil Engineer.

GENERAL CONDITIONS

13.12.4 Implementation

The Contractor shall implement the Storm Water Pollution Prevention Plan by doing the following:

- a. Obtain a Waste Discharger Identification (WDID) number from the SWRCB before beginning construction. This number will be issued once your PRDs are administratively accepted and fee is received.
- b. Keep the SWPPP, REAPs, monitoring data on the construction site.
- c. Employ a Qualified SWPPP Practitioner (QSP) to implement the SWPPP during construction and develop Rain Event Action Plans ("REAPs").
- d. Install, inspect, maintain and monitor BMPs required by the General Permit.
- e. Install perimeter controls prior to starting other construction work at the site.
- f. Contain on-site storm water at the jobsite. Do not drain on-site water directly into the storm drain.
- g. Implement the SWPPP.
- h. Provide SWPPP and BMP implementation training for those responsible for implementing the SWPPP.
- i. Designate trained personnel for the proper implementation of the SWPPP.
- j. Conduct monitoring, as required, and assess compliance with the Numeric Action Levels (NALs) or Numeric Effluent Limitations (NELs) appropriate to your project.
- k. Report monitoring data:
 1. Maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed.
 2. Have a QSD revise the SWPPP as needed to reflect the phases of construction and to suit changing site conditions and instances when properly installed systems are ineffective.
 3. Assist the District with entering any necessary data or information into the Stormwater Multi-Application and Reporting System ("SMARTS") system.
- l. At the end of Construction Contract:

GENERAL CONDITIONS

1. Submit Notice of Termination (NOT) into the SMARTS when construction is complete and conditions of termination listed in the NOT have been satisfied. A copy of the NOT can be found at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.
2. Leave in place storm water pollution prevention controls needed for post-construction storm water management and remove those that are not needed as determined by the District. Thereafter, left-in-place controls will be maintained by the District.
3. Provide Site Monitoring Reports, SWPPP revisions, Compliance Certifications and related documents to the District. Post-construction storm water operation and management plan as mentioned in the compliance certifications are considered to be in place at the end of the Construction Contract.

13.12.5 Monitoring

The Contractor shall conduct examination of storm water pollution prevention controls as required by the State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbing Activities. This includes properly qualified personnel performing all required monitoring, testing, inspections and monitoring. The Contractor shall also conduct examination of storm water pollution prevention controls, as well as before and after each storm event in compliance with the State Water Resources Control Board Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (General Permit) (SWRCB, 2009).and at least once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or BMP changes as soon as feasible. All maintenance related to a storm event should be completed within 48 hours of the storm event. The Contractor shall also prepare and maintain, at the jobsite, a log of each inspection using Site Monitoring Report forms.

13.12.6 Liabilities and Penalties

- a. Review of the SWPPP and inspection logs by the District shall not relieve the Contractor from liabilities arising from non-compliance with storm water pollution regulations.
- b. Payment of penalties for non-compliance by the Contractor shall be the sole responsibility of the Contractor and will not be reimbursed by the District.
- c. Compliance with the Clean Water Act pertaining to construction activity is the sole responsibility of the Contractor. For any fine(s) levied against the District due to non-compliance by the Contractor, the District will deduct from the final payment due the Contractor the total amount of the fine(s) levied on the District, plus legal and associated costs.

GENERAL CONDITIONS

- d. The Contractor shall submit to the District a completed NOI for change of information (Construction Site Information and Material Handling/Management Practices).

GENERAL CONDITIONS

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR FOR CAUSE

14.1.1 Grounds for Termination

The Contractor may terminate the Contract if the Work is stopped for a period of thirty (30) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons performing portions of the Work for whom the Contractor is contractually responsible, for only the following reasons:

- a. Issuance of an order of a court or other public authority having jurisdiction; or
- b. An act of the United State or California government, such as a declaration of national emergency.

14.1.2 Notice of Termination

If one of the above reasons exists, the Contractor may, upon written notice of seven (7) additional days to the District, terminate the Contract and recover from the District payment for Work executed and for reasonable costs verified by the Architect with respect to materials, equipment, tools, construction equipment, and machinery, including reasonable overhead, profit, and damages.

14.2 TERMINATION BY THE DISTRICT FOR CAUSE

14.2.1 Grounds for Termination

The District may terminate the Contractor and/or this Contract for the following reasons:

- a. Persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- b. Persistently or repeatedly is absent, without excuse, from the job site;
- c. Fails to make payment to Subcontractors, suppliers, materialmen, etc.;
- d. Persistently disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction;
- e. Fails to provide a schedule or fails or refuses to update schedules required under the Contract;
- f. Falls behind on the Project and refuses or fails to undertake a Recovery Schedule;
- g. If the Contractor has been debarred from performing Work
- h. Becomes bankrupt or insolvent, including the filing of a general assignment for the benefit of creditors; or

GENERAL CONDITIONS

- i. Otherwise is in substantial breach of a provision of the Contract Documents.

14.2.2 Notification of Termination

When any of the above reasons exist, the District may, without prejudice to any other rights or remedies of the District and after giving the Contractor and the Contractor's Surety written notice of seven (7) days, terminate the Contractor and/or this Contract and may, subject to any prior rights of the Surety:

- a. Take possession of the Project and of all material, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- b. Accept assignment of Subcontracts. Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept;
- c. Complete the Work by any reasonable method the District may deem expedient, including contracting with a replacement contractor or contractors; and,
- d. Agree to accept a takeover and completion arrangement with Surety that is acceptable to the District Board.

14.2.3 Takeover and Completion of Work after Termination for Cause

A Termination for Cause is an urgent matter which requires immediate radiation since Project Work is open and incomplete, the site is subject to vandalism and theft, the Project site is considered a public nuisance, and there is a possibility of injury and deterioration of the Project Work and materials. Thus, the District shall be entitled to enter a takeover contract to either remediate the unfinished condition or complete the Work for this Project.

14.2.4 Payments Withheld

If the District terminates the Contract for one of the reasons stated in Article 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is complete. All costs associated with the termination and completion of the Project shall be the responsibility of the Contractor and/or its Surety.

14.2.5 Payments upon Completion

If the unpaid balance of the Contract Sum exceeds costs of completing the Work, including compensation for professional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor and its Surety shall pay the difference to the District. The amount to be paid to the Contractor, or District, as the case may be, shall be certified by the Architect upon application. This payment obligation shall survive completion of the Contract.

14.3 TERMINATION OF CONTRACT BY DISTRICT (CONTRACTOR NOT AT FAULT)

14.3.1 Termination for Convenience

GENERAL CONDITIONS

District may terminate the Contract upon fifteen (15) calendar days of written notice to the Contractor and use any reasonable method the District deems expedient to complete the Project, including contracting with replacement contractor or contractors, if it is found that reasons beyond the control of either the District or Contractor make it impossible or against the District's interest to complete the Project. In such a case, the Contractor shall have no Claims against the District except for: (1) the actual cost for approved labor, materials, and services performed in accordance with the Contract Documents which have not otherwise been previously paid for and which are supported and documented through timesheets, invoices, receipts, or otherwise; and (2) profit and overhead of ten percent (10%) of the approved costs in item (1); and (3) termination cost of five percent (5%) of the approved costs in item (1). Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept.

14.3.2 Non-Appropriation of Funds/ Insufficient Funds

In the event that sufficient funds are not appropriated to complete the Project or the District determines that sufficient funds are not available to complete the Project, District may terminate or suspend the completion of the Project at any time by giving written notice to the Contractor. In the event that the District exercises this option, the District shall pay for any and all work and materials completed or delivered onto the site for which value is received, and the value of any and all work then in progress and orders actually placed which cannot be canceled up to the date of notice of termination. The value of work and materials not otherwise already paid for by the District up to the time of termination under this Paragraph shall include a factor of fifteen percent (15%) for the Contractor's overhead and profit and there shall be no other costs or expenses paid to Contractor. All work, materials and orders paid for pursuant to this provision shall become the property of the District. District may, without cause, order Contractor in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as District may determine. Adjustment shall be made for increases in the cost of performance of the Agreement caused by suspense, delay or interruption.

14.4 REMEDIES OTHER THAN TERMINATION

If a default occurs, the District may, without prejudice to any other right or remedy, including, without limitation, its right to terminate the Contract pursuant to Article 14.2, do any of the following:

- a. Permit the Contractor to continue under this Contract, but make good such deficiencies or complete the Contract by whatever method the District may deem expedient, and the cost and expense thereof shall be deducted from the Contract Price or paid by the Contractor to the District on demand;
- b. If the workmanship performed by the Contractor is faulty or defective materials are provided, erected or installed, then the District may order the Contractor to remove the faulty workmanship or defective materials and to replace the same with work or materials that conform to the Contract Documents, in which event the Contractor, at its sole costs and expense, shall proceed in accordance with the District's order and complete the same within the time period given by the District in its notice to the Contractor; or
- c. Initiate procedures to declare the Contractor a non-responsible bidder for a period of two (2) to five (5) years thereafter.

GENERAL CONDITIONS

All amounts expended by the District in connection with the exercise of its rights hereunder shall accrue interest from the date expended until paid to the District at the maximum legal rate. The District may retain or withhold any such amounts from the Contract Price. If the Contractor is ordered to replace any faulty workmanship or defective materials pursuant to Paragraph (b) above, the Contractor shall replace the same with new work or materials approved by the Architect and the District, and, at its own cost, shall repair or replace, in a manner and to the extent the Architect and the District shall direct, all Work or material that is damaged, injured or destroyed by the removal of said faulty workmanship or defective material, or by the replacement of the same with acceptable work or materials. In no event shall anything in this Article be deemed to constitute a waiver by the District of any other rights or remedies that it may have at law or in equity, it being acknowledged and agreed by the Contractor that the remedies set forth in this Article are in addition to, and not in lieu of, any other rights or remedies that the District may have at law or in equity.

GENERAL CONDITIONS

ARTICLE 15 DEBARMENT

15.1 DEBARMENT MEANS THERE HAS BEEN A FINDING THAT THE CONTRACTOR IS NOT RESPONSIBLE.

During the course of the Project, or if it is determined through Change Orders, Claims, or Audit that a Contractor is not responsible, the District may, in addition to other remedies provided in the Contract, debar the Contractor from bidding or proposing on, or being awarded, and/or performing work on District contracts for a specified period of time, which generally will not exceed five (5) years, but may exceed five (5) years or be permanent if the circumstances warrant such debarment. In addition to the debarment proceeding, a finding that a Contractor is to be debarred shall result in the termination of any or all existing Contracts the Contractor may have with the District.

15.2 BOARD FINDING

The District may debar a Contractor if the Board, or the Board's delegatee, in its discretion, finds the Contractor has done any of the following:

15.2.1 Intentionally or with reckless disregard, violated any term of the Contract with the District

15.2.2 Committed an acts or omission which reflects on the Contractor's quality, fitness or capacity to perform Work for the District;

15.2.3 Committed an act or offense which indicates a lack of business integrity or business honesty; or,

15.2.4 Made or submitted a false claim against the District or any other public entity.

15.3 HEARING AND PRESENTATION OF EVIDENCE

If there is evidence that the Contractor may be subject to debarment, the District shall notify the Contractor in writing of the evidence which is the basis for the proposed debarment and shall advise the Contractor of the scheduled date for a debarment hearing before the District Board or its delegated designee.

The District Board, or designee, shall conduct a hearing where evidence on the proposed debarment is presented. The Contractor or the Contractor's representative shall be given an opportunity to submit evidence at the hearing. The Contractor shall be provided an adequate amount of time to prepare and object to evidence presented. A tentative proposed decision shall be issued as a tentative decision and the District shall be entitled to modify, deny or adopt the proposed decision. The proposed decision shall contain a recommendation regarding whether the Contractor should be debarred, and, if so, the appropriate length of time of the debarment. The Contractor and the District shall be provided an opportunity to object to the tentative proposed decision for a period of 15 days. If additional evidence is presented, the District shall evaluate this evidence and either issue an amended ruling, issue the same ruling, or call a further hearing.

GENERAL CONDITIONS

If a Contractor has been debarred for a period of longer than five (5) years, that Contractor may after the debarment has been in effect for at least five (5) years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The District may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Contractor has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the District.

The District will consider a request for review of a debarment determination only where: (1) the Contractor has been debarred for a period longer than five (5) years; (2) the debarment has been in effect for at least five (5) years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the District will provide notice of the hearing on the request. At the hearing, the District shall review evidence on the proposed reduction of debarment period. This hearing shall be conducted and the request for review decided by the District pursuant to the same procedures as for a debarment hearing.

The District's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment.

The terms shall also apply to Subcontractors of Contractor.

SUPPLEMENTARY GENERAL CONDITIONS

The following supplements modify the General Conditions. Where a portion of the General Conditions is modified and or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

ARTICLE 3 – THE CONTRACTOR

Article 3.10.4 Add the following: The Contractor shall require all Subcontractors to prepare and submit to the Contractor, within fifteen (15) days of execution of the Subcontract, comprehensive lists, in quadruplicate, of the manufacturers and products proposed for the Project, including information on materials, equipment, and fixtures required by the Contract Documents, as may be required for the Contractor's or Architect's approval.

ARTICLE 8 – TIME

Article 8.2.2 Performance During Working Hours – delete this Article and replace with the following:

- 8.2.2 Forty (40) hours between April 30, 2018 from 4 p.m. to 11:00 p.m. through June 8, 2018 from 4 p.m. through 11:00 p.m. shall constitute a work week at the applicable prevailing wage rate(s);

- 8.2.2 Forty (40) hours between June 11, 2018 from 7 a.m. to 11:00 p.m. through August 10, 2018 from 7 a.m. through 11:00 p.m. shall constitute a work week at the applicable prevailing wage rate(s);

Article 8.4.1 Liquidated Damages – Contractor will be liable to the District for Liquidated Damages pursuant to Article 8.4 for each calendar day of delay in the amount set forth in the Agreement Form.

ARTICLE 11 – INSURANCE AND BONDS

Article 11.10 Performance and Payment Bonds – The number of executed copies of the Performance Bond and the Payment Bond required is two (2).

SECTION 13.12 – STORM WATER POLLUTION PREVENTION

Not applicable to this project.

SUPPLEMENTARY GENERAL CONDITIONS

Division 1 Forms

IMMEDIATE CONSTRUCTION CHANGE DIRECTIVE NO.

PROJECT: _____

TO: _____

You are hereby directed to provide the extra work necessary to comply with this ICD.

DESCRIPTION OF CHANGE: _____

COST (This cost shall not be exceeded): _____

TIME FOR COMPLETION: _____

NOTE:

Pursuant to Article 7.3.1.2 An Immediate Change Directive is a written order to the Contractor prepared by the Architect and signed by the District (and CM if there is a CM on the Project) and the Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The District may by ICD, without invalidating the Contract, direct immediate changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions within. If applicable, the Contract Sum and Contract Time will be adjusted accordingly. CONTRACTOR SHALL PROCEED WITH WORK SET FORTH IN THIS ICD IMMEDIATELY UPON RECEIPT OR THE DISTRICT MAY EITHER HOLD THE CONTRACTOR IN EITHER PARTIAL DEFAULT PURSUANT TO ARTICLE 2.2 OR TOTAL DEFAULT PURSUANT TO ARTICLE 14.

Architect

District

SUPPLEMENTARY GENERAL CONDITIONS

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: _____

TO: _____

As the Architect for the Project described above, the Project has reached Substantial Completion. Substantial Completion is not reached unless and until each of the following three (3) conditions have been met: (1) all contractually required items have been installed with the exception of only minor and Incomplete Punch Items (See Article 9.9 of the General Conditions); (2) All Fire/Life Safety Systems have been installed, and are working and signed off on the DSA Form 152 Inspection Card, all building systems including mechanical, electrical and plumbing are all functioning; and (3) the Project is fit for occupancy and its intended use

I certify that the Project has reached Substantial Completion as defined above on the following date:

_____.

Architect

New Fire Alarm System

SECTION 013000 - SUBMITTALS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

- A. Submittals are required on items and systems including, but not limited to: fixtures, wiring devices, equipment, etc. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- B. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI.

1.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 2. Submit three copies of each action submittal.
 - 3. Architect will return submittals, without review received from sources other than Contractor.
- B. Submittals: Place a permanent label or title block on each submittal for identification. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:
 - 1. Project name.
 - 2. Date.
 - 3. Name and address of Contractor.
 - 4. Name and address of subcontractor or supplier.
 - 5. Number and title of appropriate Specification Section.
- C. Identify options requiring selection by Architect.
- D. Identify deviations from the Contract Documents on submittals.

PART 2 - EXECUTION

2.1 SUBMITTAL REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Architect will review each action submittal, make marks to indicate corrections or modifications required, will stamp each submittal with an action stamp, and will mark stamp appropriately to indicate action.

END OF SECTION 013000

New Fire Alarm System

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - EXECUTION

1.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work or spillage.
 - 1. Provide temporary barricades and/or barriers to protect and exclude the public from areas where alteration work is being performed.
 - 2. Provide directional signage to protect and exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
- B. Protect existing materials, including floors along hauling routes, with temporary protections and construction.
 - 1. Use covering materials and masking agents that will not stain or leave residue on surfaces. When no longer needed, promptly remove protective materials.
- C. Comply with each product manufacturer's written instructions for protections and precautions.
- D. Utility and Communications Services: Notify Owner; Architect; authorities having jurisdiction; and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations. Disconnect and cap pipes and services as required by authorities having jurisdiction, and provide temporary services during interruptions to existing utilities.

1.2 PROTECTION FROM FIRE

- A. Comply with NFPA 241 requirements unless otherwise indicated.
- B. Fire-Control Devices: Maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids.
- C. Sprinklers: Maintain sprinkler protection without interruption. While operations are performed close to sprinklers, shield them temporarily with guards and remove guards when nearby work is paused or completed.

New Fire Alarm System

1.3 GENERAL ALTERATION WORK

- A. Notify Architect of visible changes in the integrity of material or components, including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

New Fire Alarm System

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
- B. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Architect for a decision.
- C. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum. The actual installation may exceed the minimum within reasonable limits. Indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision.
- D. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, notices, receipts for fee payments, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
- F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.

New Fire Alarm System

- G. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- I. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- J. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction.

PART 2 - EXECUTION

2.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

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SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- B. Abbreviations and Acronyms: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
 - 1. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
 - 2. ANSI - American National Standards Institute; www.ansi.org.
 - 3. ASSE - American Society of Safety Engineers (The); www.asse.org.
 - 4. EPA – The Environmental Protection Agency; www.epa.gov.
 - 5. MPI - Master Painters Institute; www.paintinfo.com.
 - 6. NFPA - NFPA; (National Fire Protection Association); www.nfpa.org.
 - 7. UL - Underwriters Laboratories Inc.; www.ul.com.

END OF SECTION 014200

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SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - PRODUCTS

1.1 TEMPORARY FACILITIES

- A. Provide field offices, storage and fabrication sheds, and other support facilities as necessary for construction operations. Store combustible materials apart from building.

1.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 2 - EXECUTION

2.1 TEMPORARY UTILITY INSTALLATION

- A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

2.2 SUPPORT FACILITIES INSTALLATION

- A. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.
- B. Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.

2.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

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- C. Furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- F. Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and tenants from fumes and noise.
- G. Install and maintain temporary fire-protection facilities. Comply with NFPA 241.

2.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion.
- C. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

END OF SECTION 015000

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SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
- B. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced.
 - 1. Show compliance with requirements for comparable product requests.
 - 2. Architect will review the proposed product and notify Contractor of its acceptance or rejection.
- C. Basis-of-Design Product Specification Submittal: Show compliance with requirements.
- D. Compatibility of Options: If Contractor is given option of selecting between two or more products, select product compatible with products previously selected.
- E. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 4. Store materials in a manner that will not endanger Project structure.
 - 5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- F. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation.

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1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
 2. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows:
1. Products:
 - a. Where requirements include "one of the following," provide one of the products listed that complies with requirements.
 - b. Where requirements do not include "one of the following," provide one of the products listed that complies with requirements or a comparable product.
 2. Manufacturers:
 - a. Where requirements include "one of the following," provide a product that complies with requirements by one of the listed manufacturers.
 - b. Where requirements do not include "one of the following," provide a product that complies with requirements by one of the listed manufacturers or another manufacturer.
 3. Basis-of-Design Product: Provide the product named, or indicated on the Drawings, or a comparable product by one of the listed manufacturers.
- C. Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
- D. Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Architect will consider Contractor's request for comparable product when the following conditions are satisfied:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications.
 3. List of similar installations for completed projects, if requested.
 4. Samples, if requested.

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PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 EXECUTION REQUIREMENTS

A. Cutting and Patching:

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.2 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: See 283100.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, warranties and similar documents.
3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, and similar items.
4. Submit test/adjust/balance records.
5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

B. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner.
3. Complete startup and testing of systems and equipment.
4. Remove temporary facilities and controls.
5. Complete final cleaning requirements, including touchup painting.

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6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
- B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
 1. Verify compatibility with and suitability of substrates.
 2. Examine roughing-in for mechanical and electrical systems.
 3. Examine walls, floors, and roofs for suitable conditions.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
- E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- F. Surface and Substrate Preparation: Comply with manufacturer's written recommendations for preparation of substrates to receive subsequent work.

3.2 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

- A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.

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3.3 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
- E. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- F. Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

- A. Provide temporary support of work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.
 - 1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
- E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.

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2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.5 CLEANING

- A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
 3. Remove debris from concealed spaces before enclosing the space.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 2. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
 3. Remove labels that are not permanent.
 4. Clean transparent materials, including mirrors. Remove excess glazing compounds.
 5. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
 6. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.

3.6 OPERATION AND MAINTENANCE MANUAL PREPARATION

- A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.

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- C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

3.7 DEMONSTRATION AND TRAINING

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:
 - 1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF SECTION 017000

New Fire Alarm System

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Items indicated to be removed and salvaged remain Owner's property. Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner. Include fasteners or brackets needed for reattachment elsewhere.
- B. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- C. It is not expected that hazardous materials will be encountered in the Work. If hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with EPA regulations and with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 DEMOLITION

- A. Maintain services/systems indicated to remain and protect them against damage during selective demolition operations. Before proceeding with demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of the building.
- B. Locate, identify, shut off, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
- C. Protect walls, ceilings, floors, and other existing finish work that are to remain. Erect and maintain dustproof partitions. Cover and protect furniture, furnishings, and equipment that have not been removed.
- D. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.

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- E. Remove demolition waste materials from Project site. Do not burn demolished materials.
- F. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

New Fire Alarm System

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Installer certificates signed by Installer certifying that products have been installed in compliance with requirements.

PART 2 - PRODUCTS

2.1 PENETRATION FIRESTOPPING

- A. Provide penetration firestopping materials that are compatible with one another, substrates, and penetrating items if any.
- B. Penetrations in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
 - 1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.
 - 2. F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated.
 - 3. T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of construction penetrated except for penetrations within the cavity of a wall.
- C. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.
 - 1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at 0.30-inch wg at both ambient and elevated temperatures.
- D. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.

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PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Include the following information on labels:
 - 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 - 2. Designation of applicable testing and inspecting agency.
 - 3. Manufacturer's name.
 - 4. Installer's name.
- C. Owner will engage a qualified testing agency to perform tests and inspections.

END OF SECTION 078413

New Fire Alarm System

SECTION 099113 - EXTERIOR PAINTING

PART 1 - PRODUCTS

1.1 PAINT

- A. MPI Standards: Provide materials that comply with MPI standards.
- B. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

PART 2 - EXECUTION

2.1 PREPARATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

2.2 APPLICATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Paint exposed surfaces, new and existing, unless otherwise indicated.
 - 1. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.

END OF SECTION 099113

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SECTION 099123 - INTERIOR PAINTING

PART 1 - PRODUCTS

1.1 PAINT

- A. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
- B. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

PART 2 - EXECUTION

2.1 PREPARATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

2.2 APPLICATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Paint exposed surfaces as indicated.
 - 1. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
- C. Apply paints according to manufacturer's written instructions.

END OF SECTION 099123

BASIC ELECTRICAL REQUIREMENTS

SECTION 260010 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Table of Contents, Division 26 - Electrical:

<u>SECTION NO.</u>	<u>SECTION TITLE</u>
260010	BASIC ELECTRICAL REQUIREMENTS
260090	ELECTRICAL DEMOLITION
260519	BUILDING WIRE AND CABLE
260529	ELECTRICAL HANGERS AND SUPPORTS
260531	CONDUIT
260533	BOXES
260543	UNDERGROUND DUCTS AND STRUCTURES
260553	ELECTRICAL IDENTIFICATION
283100	FIRE ALARM SYSTEM

B. Work included: This Section includes general administrative and procedural requirements for Division 26. The following administrative and procedural requirements are included in this Section to supplement the requirements specified in Division 01.

1. Quality assurance.
2. Definition of terms.
3. Submittals.
4. Coordination.
5. Record documents.
6. Operation and maintenance manuals.
7. Rough-in.
8. Electrical installation.
9. Cutting, patching, painting and sealing.
10. Field quality control.
11. Cleaning.
12. Project closeout.

C. Related Work: Consult all other Sections, determine the extent and character of related Work and properly coordinate Work specified herein with that specified elsewhere to produce a complete and operable installation.

1. General and supplementary conditions: Drawings and general provisions of Contract and Division 01 of the Specifications, apply to all Division 26 & 28 Sections.
2. Earthwork: Include trenching, backfilling, boring and soil compaction as required for the installation of underground conduit, in-grade pull boxes, etc.
3. Selective demolition: Nondestructive removal of materials and equipment for reuse or salvage as indicated. Also dismantling electrical materials and equipment made obsolete by these installations.

BASIC ELECTRICAL REQUIREMENTS

4. Miscellaneous lumber and framing Work: Include wood grounds, nailers, blocking, fasteners and anchorage for support of electrical materials and equipment.
5. Moisture protection and smoke barrier penetrations: Include membrane clamps, sheet metal flashing, counter flashing, caulking and sealant as required for waterproofing of conduit penetrations and sealing penetrations in or through fire walls, floors, ceiling slabs and foundation walls. All penetrations through vapor barriers at slabs on grade shall be taped and made vaportight.
6. Access panels and doors: Required in walls, ceilings and floors to provide access to electrical devices and equipment.
7. Painting: Include surface preparation, priming and finish coating as required for electrical cabinets, exposed conduit, pull and junction boxes, etc. where indicated as field painted in this Division.

1.02 QUALITY ASSURANCE

- A. Reference to Codes, Standards, Specifications and recommendations of technical societies, trade organizations and governmental agencies shall mean that latest edition of such publications adopted and published prior to submittal of the bid. Such codes or standards shall be considered a part of this Specification as though fully repeated herein.
- B. When codes, standards, regulations, etc. allow Work of lesser quality or extent than is specified under this Division, nothing in said codes shall be construed or inferred authority for reducing the quality, requirements or extent of the Contract Documents. The Contract Documents address the minimum requirements for construction.
- C. Work shall be performed in accordance with all applicable requirements of the latest edition of all governing codes, rules and regulations including but not limited to the following minimum standards, whether statutory or not:
 1. California Electric Code (CEC).
 2. California Building Code (CBC).
 3. California Fire Code (CFC).
 4. California Mechanical Code (CMC).
- D. Standards: Equipment and materials specified under this Division shall conform to the following standards where applicable:

ACI	American Concrete Institute
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
CBM	Certified Ballast Manufacturers
ETL	Electrical Testing Laboratories
FS	Federal Specification
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IPCEA	Insulated Power Cable Engineer Association
NEMA	National Electrical Manufacturer's Association
UL	Underwriters' Laboratories

1.03 DEFINITION OF TERMS

- A. The following list of terms as used in the Division 26 documents shall be defined as follows:
 1. "Provide": Shall mean furnish, install and connect unless otherwise indicated.

BASIC ELECTRICAL REQUIREMENTS

2. "Furnish": Shall mean purchase and deliver to Project site.
3. "Install": Shall mean to physically install the items in-place.
4. "Connect": Shall mean make final electrical connections for a complete operating piece of equipment.
5. "As directed": Shall be as directed by the Owner or their authorized Representative.
6. "Utility Companies": Shall mean the company providing electrical, telephone or cable television services to the Project.

1.04 SUBMITTALS

- A. Format: Furnish submittal data neatly bound in an 8-1/2" x 11" folder or binder for each Specification Section with a table of contents listing materials by Section and paragraph number.
- B. Submittals shall consist of detailed Shop Drawings, Specifications, block wiring diagrams, "catalog cuts" and data sheets containing physical and dimensional information, performance data, electrical characteristics, materials used in fabrication and material finish. Clearly indicate by arrows or brackets precisely what is being submitted on and those optional accessories which are included and those which are excluded. Furnish quantities of each submittal as noted in Division 01.
- C. Each submittal shall be labeled with the Specification Section Number and shall be accompanied by a cover letter or shall bear a stamp stating that the submittal has been thoroughly reviewed by the Contractor and is in full compliance with the requirements of the Contract Documents. Cover letters shall list in full the items and data submitted. Failure to comply with this requirement shall constitute grounds for rejection of data.
- D. The Contractor shall submit detailed Drawings of all electrical equipment rooms and closets if the proposed installation layout differs from the construction documents. Physical size of electrical equipment indicated on the Drawings shall match those of the electrical equipment that is being submitted for review, i.e.: switchboards, panelboards, transformers, control panels, etc. Minimum scale: 1/4" = 1'- 0". Revised electrical equipment layouts must be approved prior to release of order for equipment and prior to installation.
- E. As part of the equipment submittals, the Manufacturer shall provide anchorage calculations for floor and wall mounted electrical equipment so that it shall remain attached to the mounting surface after experiencing forces in conformance with CCR, Title 24, Table 23P, Part II and with Section 2312 "Earthquake Regulations" of the "Uniform Building Code" for Seismic Zone 4 Area, Importance Factor of 1.251.5. Structural Calculations shall be prepared and signed by a California Registered Structural Engineer. Specify proof loads for drilled-in anchors, if used.
- F. The Manufacturer shall recommend the method of anchoring the equipment to the mounting surface and shall provide the Contractor with the assembly dimensions, weights and approximate centers of gravity.
- G. All resubmittals shall include a cover letter that lists the action taken and revisions made to each Drawing and equipment data sheet in response to Submittal Review Comments. Resubmittal packages will not be reviewed unless accompanied by this cover letter. Failure to include this cover letter will constitute rejection of the resubmittal package.
- H. Shop Drawings for the following systems must be prepared via a computer aided drafting (CAD) system for submission by the Contractor. The Engineer can provide files of the electrical Contract Documents to the Contractor.

BASIC ELECTRICAL REQUIREMENTS

1. Fire alarm system, Section 283100.

I. Substitutions:

1. All requests for substitutions shall conform to the general requirements and procedure outlined in Division 01.
2. Where items are noted as "or equal," a product of equal design, construction and performance will be considered. Contractor must submit to the Engineer all pertinent test data, catalog cuts and product information required substantiating that the product is in fact equal to that specified. Only one substitution will be considered for each product specified.
3. Manufacturers' names and model numbers used in conjunction with materials, processes or equipment included in the Contract Documents are used to establish standards of quality, utility and appearance. Materials, processes or equipment, which in the opinion of the Engineer is equal in quality, utility and appearance, will be approved as substitutions to that specified.
4. Whenever any material, process or equipment is specified in accordance with a Federal specification, an ASTM standard, an ANSI specification, UL rating or other association standard, the Contractor shall present an affidavit from the Manufacturer certifying that the product complies with the particular standard specification. When requested by the Engineer, support test data to substantiate compliance shall be submitted by the Contractor at no additional cost.
5. Substitutions shall be equal, in the opinion of the Architect/Engineer, to the specified product. The burden of proof of such shall rest with the Contractor. When the Architect/Engineer in writing accepts a substitution, it is with the understanding that the Contractor guaranteed the substituted article or material to be equal to the one specified and dimensioned to fit within the construction. Approved substitutions shall not relieve the Contractor of responsibilities for the proper execution of the Work or from any provisions of the Specifications.
6. The Contractor shall be responsible for all expenses in connection with the substitution materials, processes and equipment, including the effect of the substitution on the Contractor, Subcontractor's or other Contractor's Work. No substitution of material, processes or equipment shall be permitted without written authorization of the Architect/Engineer. Any assumptions on the acceptability of a proposed substitution prior to acceptance by the Engineer are at the sole risk of the Contractor.

1.05 COORDINATION

A. Discrepancies:

1. In the event of discrepancies within the Contract Documents, the Engineer shall be so notified, within sufficient time, as delineated in Division 01, prior to the Bid Opening to allow the issuance of an Addendum.
2. If, in the event that time does not permit notification or clarification of discrepancies prior to the Bid Opening, the following shall apply: The Drawings govern in matters of quantity and the Specifications govern in matters of quality. In the event of conflict within the Drawings involving quantities or within the Specifications involving quantities or within the Specifications involving quality, the greater quantity and higher quality shall apply. Such discrepancies shall be noted and clarified in the Contractor's Bid. No additional allowances will be made because of errors, ambiguities or omissions that reasonably should have been discovered during the preparation of the Bid.

BASIC ELECTRICAL REQUIREMENTS

B. Project conditions:

1. Examination of Project site: The Contractor shall visit the Project site and thoroughly review the locale, working conditions, conflicting utilities and the conditions in which the Electrical Work will take place. Verify all existing conditions in the field. No allowances will be made subsequently for any costs that may be incurred because of any error or omission due to failure to examine the Project site and to notify the Engineer of any discrepancies between Contract Documents and actual Project site conditions.
2. Protection: Keep conduits, junction boxes, outlet boxes and other openings closed to prevent entry of foreign matter. Cover fixtures, equipment, devices and apparatus and protect them against dirt, paint, water, chemical or mechanical damage, before and during construction period. Prior to final acceptance, restore to original condition any fixture, apparatus or equipment damaged including restoration of damaged factory applied painted finishes. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.
3. Supervision: Contractor shall personally or through an authorized and competent representative constantly supervise the Work from beginning to completion and, within reason, keep the same foreman and workmen on the Project throughout the Project duration.

C. Preparation:

1. Drawings:
 - a. Layout: General layout indicated on the Drawings shall be followed except where other Work may conflict with the Drawings.
 - b. Accuracy: Drawings for the Work under this Section are essentially diagrammatic within the constraints of the symbology applied.

1.06 RECORD DOCUMENTS

A. Provide Project Record Drawings as described herein:

1. Drawings shall fully represent installed conditions including actual locations of outlets, true panelboard connections following phase balancing routines, correct conduit and wire sizing as well as routing, revised fixture schedule listing Manufacturers and products actually installed and revised panel schedules. Contractor shall record all changes in the Work during the course of construction on blue or black line prints. These prints shall be made subject of monthly review by the Owner's Representative to ascertain that they are current. If not, current monthly payments may be withheld.
2. Record Drawings shall be the transfer of information on these prints to AutoCad files of the original Drawings by a professional draftsman. The construction documents will be provided for the Contractor's use in reproducing at their cost the construction documents via computer aided drafting (CAD) process. A set of CAD files of the electrical documents will be provided to the Contractor in Autocad format.
3. Record drawing submissions shall be provided to the Engineer to review upon the completion of the following phases of Work:
 - a. Final electrical installation.
4. Include in the record drawing submission the following shop drawing submission with all updated installation information:
 - a. Fire alarm system.

BASIC ELECTRICAL REQUIREMENTS

5. A single set of half size prints of the Record Drawings shall be submitted for review. Upon receipt of the Engineer's review comments, corrections shall be made and the Contractor shall provide the following:
 - a. One set of full size prints.
 - b. One set of half size prints.
 - c. PDF files of Drawings.

1.07 OPERATION AND MAINTENANCE MANUALS

- A. Prior to Project closeout furnish to the Owner, six (6) hard back 3-ring binders containing all bulletins, operation and maintenance instructions, part lists, service telephone numbers and other pertinent information as noted in each Section all equipment furnished under Division 26. Binders shall be indexed into Division Sections and labeled for easy reference. Bulletins containing more information than the equipment concerned shall be properly stripped and assembled.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 ROUGH-IN

- A. Contractor shall verify lines, levels and dimensions indicated on the Drawings and shall be responsible for the accuracy of the setting out of Work and for its strict conformance with existing conditions at the Project site.
- B. Verify final locations for rough-ins with field measurements and with the requirements for the actual equipment to be connected.

3.02 ELECTRICAL INSTALLATION

- A. Preparation, sequencing, handling and installation shall be in accordance with Manufacturer's written instructions and technical data particular to the product specified and/or accepted equal except as otherwise specified. Comply with the following requirements:
 1. Shop Drawings prepared by Manufacturer.
 2. Verify all dimensions by field measurements.
 3. Install systems, materials and equipment to conform with approved submittal data, including coordination Drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are indicated only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Architect.
 4. Install systems, materials and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
 5. Install electrical equipment to facilitate servicing, maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
 6. Coordinate electrical systems, equipment and materials installations with other building components.
 7. Provide access panel or doors where devices or equipment are concealed behind finished surfaces.

BASIC ELECTRICAL REQUIREMENTS

8. Conform to the National Electrical Contractor's Association "Standard of Installation" for general installation practice.

3.03 CUTTING, PATCHING, PAINTING AND SEALING

- A. Structural members shall in no case be drilled, bored or notched in such a manner that will impair their structural value. Cutting of holes, if required, shall be done with core drill and only with the approval of the Architect and Structural Engineer.
- B. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.

3.04 FIELD QUALITY CONTROL

- A. General testing requirements:
 1. The purpose of testing is to ensure that all tested electrical equipment, both Contractor and Owner supplied, is operational and within industry and Manufacturer's tolerances and is installed in accordance with design Specifications.
 2. Tests and inspections shall determine suitability for energization.
 3. Perform tests in presence of the Owner's Representative and furnish test equipment, facilities and technical personnel required to perform tests.
 4. Tests shall be conducted during the construction period and at completion to determine conformity with applicable codes and with these Specifications.
- B. Testing safety and precautions:
 1. Safety practices shall include the following requirements:
 - a. Applicable State and Local safety operating procedures.
 - b. OSHA.
 - c. NSC.
 - d. NFPA 70E.
 2. All tests shall be performed with apparatus de-energized and grounded except where otherwise specifically required ungrounded by test procedure.
- C. Notify Owner and Engineer one week in advance of any testing.
- D. Any products which fail during the tests or are ruled unsatisfactory by the Owner's Representative shall be replaced, repaired or corrected as prescribed by the Owner's Representative at the expense of the Contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.
- E. Include all test results in the maintenance manuals.

END OF SECTION

ELECTRICAL DEMOLITION

SECTION 260090 - ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor and equipment necessary to complete the demolition required for the item specified under this Division, including but not limited to:
 - 1. Selective Electrical demolition

1.02 SYSTEM DESCRIPTION

- A. Disconnection, removal and relocation of all wiring, light fixtures, outlets, conduit and all other types of electrical equipment as described on Drawings.
- B. Purpose is to remove, relocate and extend existing installations to accommodate new construction.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Materials and equipment necessary for patching and extending Work, as specified in other Sections.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly review conditions in the area of demolition prior to commencing Work to ensure complete understanding of existing installation in relationship to demolition Work.

3.02 GENERAL REQUIREMENTS

- A. Remove all wiring, fire alarm devices, conduit and all other types of electrical equipment indicated to be removed. Devices that are to be removed may require reworking conduit and wiring in order to maintain service to other devices. If removed devices are on walls or ceilings that are to remain, blank coverplates are to be installed on outlet boxes.
- B. Where remodeling interferes with devices in areas that are otherwise undisturbed, conduit and wire shall be reworked as required.
- C. Existing devices and circuiting that are indicated are indicated only for informational purposes. Contractor shall visit the Project site and shall verify conditions as they exist and shall remove, relocate and/or rework any electrical equipment or circuits affected (whether indicated or not) due to removal of existing walls, ceilings, etc.
- D. All equipment, devices, etc., which are removed shall be delivered to the Owner for disposition. All items which are removed and not wanted by the Owner and which are not reused shall become the property of the Contractor and shall be legally removed from the Project site.
- E. Cutting and patching necessary for the removal of Electrical Work shall be included.

3.03 CONDUIT

- A. Remove abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors and patch surfaces.

ELECTRICAL DEMOLITION

3.04 WIRING

- A. Removed abandoned wiring to source of supply.

3.05 EXISTING SYSTEMS

- A. Electrical distribution system: Disable system only to make switchovers and connections. Obtain permission from Owner's designated representative at least 24 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to Work area.
- B. Fire alarm system: Maintain the existing system in service. Disable system only to make temporary connections to maintain service in areas adjacent to Work area(s). Notify Owner and Fire Supervisory Service at least 24 hours before partially or completely disabling the system.

3.06 CLEANING AND REPAIR

- A. Clean and repair existing fire alarm materials and equipment that shall remain.

END OF SECTION

BUILDING WIRE AND CABLE

SECTION 260519 - BUILDING WIRE AND CABLE

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Building wire.
 2. Cable.
 3. Wiring connections and terminations.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
1. Federal Specifications (FS):
 - FS J-C-30A; Cable and Wire, Electrical (Power, Fixed Installation).
 - FS W-S-610C; Splice Conductor.
 - FS HH-I-595C; Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic.
 2. Underwriters Laboratories, Inc. (UL):
 - UL 44; Thermoset-Insulated Wires and Cables.
 - UL 83; Thermoplastic-Insulated Wires and Cables.
 - UL 183; Manufactured Wiring Systems.
 - UL 310; Electrical Quick-Connect Terminals.
 - UL 486A & B; Wire Connectors.
 - UL 486C; Splicing Wire Connectors.
 - UL 486D; Insulated Wire Connector Systems for Underground Use or in Damp or Wet Locations.
 - UL 493; Thermoplastic-Insulated Underground Feeder and Branch Circuit Cables.
 - UL 510; Polyvinyl Chloride, Polyethylene and Rubber Insulating Tape.
 - UL 854; Service-Entrance Cables.
 - UL 1569; Metal-Clad Cables.
 - UL 1581; Reference Standard for Electrical Wires, Cables and Flexible Cords.
 3. National Electrical Manufacturer Association (NEMA):

BUILDING WIRE AND CABLE

NEMA WC-5; Thermoplastic Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

NEMA WC-7; Cross-Linked Thermosetting Polyethylene Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

4. Institute of Electrical and Electronic Engineers (IEEE):

IEEE 82; Test Procedure for Impulse Voltage Tests on Insulated Conductors.

1.03 SUBMITTALS

A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:

1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
3. Submit Manufacturer's installation instructions.
4. Final test results.

B. RECORD DRAWINGS

1. Furnish Record Drawings as described in Section 260010: Basic Electrical Requirements, utilizing Shop Drawing submissions with updated field conditions. These Drawings shall include but not be limited to the following:
 - a. Manufactured wiring system.
2. Final acceptance will not be made until the Engineer has approved the Record Drawings.

1.04 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.
- C. Independent Testing Agency qualifications: Refer to Section 260010: Basic Electrical Requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
 1. Building wire:
 - a. America Insulated Wire Corp.
 - b. Rome Cable.
 - c. Southwire Company.
 2. Flexible Cords and Cables:

BUILDING WIRE AND CABLE

- a. Carol Cable Company.
- b. PWC Corp.
- c. ITT Royal Electric.
3. Wiring connectors and terminations:
 - a. 3M Company.
 - b. Ideal.
 - c. Blackburn-Holub.
 - d. Burndy.
 - e. Thomas & Betts Corp.
 - f. Beau Barrier.

B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.02 BUILDING WIRE

A. Conductor material:

1. Provide annealed copper for all wire, conductor and cable, unless otherwise indicated.
2. Wire AWG #8 and larger shall be stranded, unless otherwise indicated.
3. Wire AWG #10 and smaller may be solid or stranded as best suited for the installation.

B. Insulation material:

1. All insulated wire, conductor and cable shall be 600 volt rated unless otherwise noted on the Drawings.
2. Thermoplastic-insulated building wire: NEMA WC 5.
3. Rubber-insulated building wire: NEMA WC 3.
4. Feeders and branch circuits larger than 6 AWG: Type dual rated THHN/THWN.
5. Feeders and branch circuits 6 AWG and smaller: Type or dual rated THHN/THWN.
6. Control Circuits: Type dual rated THHN/THWN.
7. Identify system conductors as to voltage and phase connections by means of color-impregnated insulation.

2.03 METAL-CLAD CABLE (MC)

A. MC cable shall not be used on this project

2.04 WIRING CONNECTIONS AND TERMINATIONS

A. Bolted pressure connectors: Provide wide range-taking connectors with cast bronze compression bolts, designed for parallel taps, tees, crosses or end-to-end connections.

B. Electrical spring wire connectors:

1. Provide multi-part construction incorporating a non-restricted, zinc coated square cross-section steel spring enclosed in a steel sheet with an outer jacket of plastic and insulating skirt.
2. Self-striping pigtail and tap U-contact connectors shall not be used.

BUILDING WIRE AND CABLE

C. Push-in wire connectors:

1. Multi-port push-in wire connectors for a maximum of 8-wires, as required for specific application. Connectors are manufactured to accommodate a wide range of sizes with either solid or stranded conductors, up to a maximum wire size of #10 AWG. Low insertion force required for ease of installation.
2. Housing shall be 105 degrees C and transparent for visual connection verification.
3. 600 volt maximum rating with copper contacts.
4. UL Listed to 486C and UL 467 Listed for grounding and bonding applications.

D. Compression type terminating lugs:

1. Provide tin-plated copper high-compression type lugs for installation with hand or hydraulically operated circumference-crimping tools and dies as stipulated by the lug Manufacturer or as indicated on Drawings. Notch or single point type crimping is NOT acceptable.
2. Two hole, long barrel lugs shall be provided for size (4/0) and larger wire where terminated to bus bars. Use minimum of three crimps per lug, on sizes where possible.

E. Splicing and insulating tape: Provide black, ultraviolet proof, self-extinguishing, 7 mil thick vinyl general purpose electrical tape with a dielectric strength of 10,000 volts suitable for temperatures from minus 18 degrees C to 105 degrees C. Federal Spec. HH-I-595, Scotch 33+ or equal minimum.

F. Insulating putty:

1. Provide pads or rolls of non-corrosive, self-fusing, one-eighth inch thick rubber putty with PVC backing sheet. Scotch vinyl mastic pads and roll or equal.
2. Use putty suitable for temperatures from minus 17.8 degrees C to 37.8 degrees C with a dielectric strength of 570-volts/mil minimum.

G. Insulating resin:

1. Provide two-part liquid epoxy resin with resin and catalyst in pre-measured, sealed mixing pouch. Scotchcast 4 or equal for wet or underground vaults, boxes, etc. splices or terminations.
2. Use resin with a set up time of approximately 30 minutes at 21.1 degrees C and with thermal and dielectric properties equal to the insulating properties of the cables immersed in the resin.

H. Terminal strips:

1. Provide box type terminal strips in the required quantity plus 25% spare. Install in continuous rows in terminal cabinets.
2. Use the box type terminal strips with barrier open backs and with ampere ratings as required.
3. Identify all terminals with numbering sequence being used for a particular system.

I. Crimp type connectors:

1. Provide insulated fork or ring crimp terminals with tinned electrolytic copper-brazed barrel with funnel wire entry and insulation support

BUILDING WIRE AND CABLE

2. Fasten crimp type connectors or terminals using a crimping tool recommended by the connector Manufacturer.
 3. Provide insulated overlap splices with tinned seamless electrolytic copper barrel with funnel wire entry and insulation support.
 4. Provide insulated butt splices with tinned seamless electrolytic copper barrel with center stop, funnel wire entry and insulation support.
- J. Cable ties: Provide harnessing and point-to-point wire bundling with nylon cable ties. All cable ties shall be installed using tool supplied by Manufacturer of ties.
- K. Wire lubricating compound:
1. UL listed for the wire insulation and conduit type and shall not harden or become adhesive.
 2. Shall not be used on wire for isolated type electrical power systems.
- L. Bolt termination hardware:
1. Bolts shall be plated, medium carbon steel heat-treated, quenched and tempered equal to ASTM A-325 or SAE grade 5; or silicon bronze alloy ASTM B-9954 Type B.
 2. Nuts shall be heavy semi-finished hexagon, conforming to ANSI B18.2.2, threads to be unified coarse series (UNC), class 2B steel or silicon bronze alloy.
 3. Flat washers shall be steel or silicon bronze, Type A plain standard wide series, conforming to ANSI B27.2. SAE or narrow series shall not be used.
 4. Belleville conical spring washers shall be hardened steel, cadmium plated or silicon bronze.
 5. Each bolt connecting lug(s) to a terminal or bus shall not carry current exceeding the following values:
 - a. 1/4" bolt - 125 amps
 - b. 5/16" bolt - 175 amps
 - c. 3/8" bolt - 225 amps
 - d. 1/2" bolt - 300 amps
 - e. 5/8" bolt - 375 amps
 - f. 3/4" bolt - 450 amps

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of wire and cable installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 APPLICATION

- A. All wire, conductor and cable with their respective connectors, fittings and supports shall be UL listed for the installed application and ambient condition.
- B. Feeders and branch circuits in wet locations shall be rated 75 degree C.
- C. Feeders and branch circuits in dry locations shall be rated 90 degree C.

BUILDING WIRE AND CABLE

- D. Minimum conductor size:
 - 1. Provide minimum AWG #12 for all power and lighting branch circuits.
 - 2. Provide minimum AWG #14 for all line voltage signal and control wiring unless otherwise indicated.
- E. Color coding:
 - 1. For 120/208 volt, 3 phase, 4 wire systems:
 - a. Phase A - Black
 - b. Phase B - Red
 - c. Phase C - Blue
 - d. Neutral - White
 - e. Ground - Green

3.03 WIRING METHODS

- A. Install wires and cables in accordance with Manufacturer's written instructions, as indicated on Drawings and as specified herein.
- B. Install all single conductors in raceway system, unless otherwise noted.
- C. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than #10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.
- D. 20 amp power and lighting branch circuit containing no more than four (4) current carrying conductors (phases and neutrals). Use #10 AWG conductor for 120/208 volt circuits located outside a 75 foot radius of panel source, unless otherwise noted.
- E. 20 amp power and lighting branch circuits containing no more than eight (8) current carrying conductors (phases and neutrals). Use #10 AWG conductors for 120/208 volt circuits located outside a 65 foot radius of panel
- F. Provide #10 AWG pig tails on all 20A and 30A wiring devices served by #8 AWG conductors and larger.
- G. Splice cables and wires only in outlet boxes, junction boxes, pull boxes, manholes or handholes. Group and bundle with tie wrap each neutral with it's associated phase conductor where more than one neutral is present in a conduit.
- H. Install cable supports for all vertical feeders in accordance with the NEC Article 300. Provide split wedge type fittings, which firmly clamp each individual cable and tighten due to cable weight.
- I. Neatly form, train and tie the cables in individual circuits. For panelboards, cabinets, wireways, switches and equipment assemblies.
- J. Seal cable or wire, entering a building from underground, between the wire or cable and conduit, where it exits the conduit, with a non-hardening approved compound, i.e. duct seal or equal.
- K. Provide UL-listed factory-fabricated, solderless metal connectors of size, ampacity rating, material, type and class for applications and for services indicated. Use connectors with temperature ratings equal to or greater than the wires that are being terminated.

BUILDING WIRE AND CABLE

- L. Stranded wire shall be terminated using fitting, lugs or devices listed for the application. However, in no case shall stranded wire be terminated solely by wrapping it around a screw or bolt.
- M. Flexible cords and cables supplied, as part of a pre-manufacturer fixture or unit assembly shall be installed according to Manufacturers published installation instructions.

3.04 WIRING INSTALLATION IN RACEWAYS

- A. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical Work likely to injure conductors has been completed. Pull all conductors into a raceway at the same time. Exercise care in pulling conductors so that insulation is not damaged. Use UL listed, non-petroleum base and insulating type pulling compound as needed.
- B. Completely mandrel all underground or concrete encased conduits prior to installing conductors.
- C. Completely and thoroughly swab raceway system before installing conductors.
- D. Do not use block and tackle, power driven winch or other mechanical means for pulling conductors of size smaller than AWG #1.
- E. Wire pulling:
 - 1. Provide installation equipment that will prevent the cutting or abrasion of insulation during pulling of cables.
 - 2. Use rope made of nonmetallic material for pulling feeders.
 - 3. Attach pulling lines for feeders by means of either woven basket grips or pulling eyes attached directly to the conductors.
 - 4. Pull in together multiple conductors or cables in a single conduit.
- F. Install and test all cables in accordance with Manufacturer's instructions and warranty.

3.05 WIRE SPLICES, JOINTS AND TERMINATION

- A. Join and terminate wire, conductors and cables in accordance with UL 486A, C, NEC and Manufacturer's instructions.
- B. Thoroughly clean wires before installing lugs and connectors.
- C. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- D. Splices and terminations shall be made mechanically and electrically secure.
- E. Where it's determined that unsatisfactory splice or terminations have been installed, remove the devices and install approved devices at no addition cost.
- F. Terminate wires in Terminal Cabinets, relay and contactor panels, etc. using terminal strip connectors.
- G. Insulate spare conductors with electrical tape and leave sufficient length to terminate anywhere in the panel or cabinet.
- H. Install cable ties and maintain harnessing.

BUILDING WIRE AND CABLE

- I. Encapsulate splices in exterior outlets, pullboxes and junction boxes using specified insulating resin kits. Make all splices watertight for exterior equipment and equipment in pump rooms.
- J. Make up all splices and taps in accessible junction or outlet boxes with connectors as specified herein. Pigtails and taps shall be the same color as the feed conductor. Form conductor prior to cutting and provide at least six (6) inches of tail and neatly packed in box after splice is made up.
- K. Branch circuits (#10 AWG and smaller):
 - 1. Connectors: Solderless, screw-on, reusable spring pressure cable type, 600 volt, 105-degree C. with integral insulation, approved for copper conductors.
 - 2. The integral insulator shall have a skirt to completely cover the stripped wires.
 - 3. The number, size and combination of conductors as listed on the Manufacturers

3.06 IDENTIFICATION

- A. Refer to Section 260553: Electrical Identification for additional requirements.
- B. Securely tag all branch circuits. Mark conductors with specified vinyl wrap-around markers. Where more than two conductors run through a single outlet, mark each conductor with the corresponding circuit number.
- C. Color code conductors size #8 and larger using specified phase color markers and identification tags.
- D. Provide all terminal strips with each individual terminal identified using specified vinyl markers.
- E. In manholes, pullboxes and handholes, provide tags of the embossed brass type and also show the cable type and voltage rating. Attach the tags to the cables with slip-free plastic cable lacing units.

3.07 FIELD QUALITY CONTROL

- A. Prefunctional testing:
 - 1. Visual and mechanical inspection:
 - a. Compare cable data with Contract Documents.
 - b. Inspect exposed sections of wires and cables for physical damage and proper connections.
 - c. Verify tightness of accessible bolted connections with calibrated torque wrench in accordance with Manufacturer's published data.
 - d. Inspect compression applied connectors for correct cable match and indentation.
 - e. Verify visible cable bend meet or exceed ICEA and Manufacturer's minimum allowable bending radius.
 - f. If cables are terminated through window type current transformers, make an inspection to verify neutral and ground conductors are correctly placed for operation of protective devices.
 - g. Ensure wire and cable identification has been installed as specified herein.

END OF SECTION

ELECTRICAL HANGERS AND SUPPORTS

SECTION 260529 - ELECTRICAL HANGERS AND SUPPORTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Conduit supports.
 2. Equipment supports.
 3. Fastening hardware.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
1. Underwriters Laboratories, Inc. (UL):
UL 2239; Hardware for the Supports of Conduit, Tubing and Cable.

1.03 SYSTEM DESCRIPTION

- A. Provide devices specified in this Section and related Sections for support of electrical equipment furnished and installed under Division 26.
- B. Provide support systems that are adequate for the weight of equipment, conduit and wiring to be supported.

1.04 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
1. Data/catalog cuts for each product and component specified herein.
 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 3. Submit Manufacturer's installation instructions.

1.05 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
1. Concrete fasteners:
 - a. Phillips "Red-Head".
 - b. Remington.

ELECTRICAL HANGERS AND SUPPORTS

- c. Ramset.
 - 2. Concrete inserts and construction channel:
 - a. Unistrut Corp.
 - b. GS Metals "Globe Strut."
 - c. Thomas & Betts "Kindorf" Corp.
 - 3. Conduit straps:
 - a. O-Z/Gedney.
 - b. Erico "Caddy" Fastening Products.
 - c. Thomas & Betts "Kindorf" Corp.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.
- 2.02 CONCRETE FASTENERS
- A. Provide expansion-shield type concrete anchors.
 - B. Provide powder driven concrete fasteners with washers. Obtain approval by Architect and Structural Engineer prior to use.
- 2.03 CONCRETE INSERTS
- A. Provide pressed galvanized steel, concrete spot insert, with oval slot capable of accepting square or rectangular support nuts of ¼ inch to ½ inch diameter thread for rod support.
- 2.04 THREADED ROD
- A. Provide steel threaded rod, sized for the load unless otherwise noted on the Drawings or in the Specifications.
- 2.05 CONSTRUCTION CHANNEL
- A. Provide 1-1/2 inch by 1-1/2 inch, 12 gauge galvanized steel channel with 17/32-inch diameter bolt holes and 1-1/2 inch on center in the base of the channel.
- 2.06 CONDUIT STRAPS
- A. One hole strap, steel or malleable iron, with malleable iron clamp-back spacer for surface mounted wall and ceiling applications.
 - 1. Use malleable strap with spacers for exterior and wet locations.
 - 2. Use steel strap without spacers for interior locations.
 - B. Steel channel conduit strap for support from construction channel.
 - C. Steel conduit hanger for pendant support with threaded rod
 - D. Steel wire conduit support strap for support from independent #12 gauge hanger wires.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of supporting device installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 PREPARATION

ELECTRICAL HANGERS AND SUPPORTS

- A. Coordinate size, shape and location of concrete pads with Division 03, Cast-in-place concrete.
- B. Layout support devices to maintain headroom, neat mechanical appearance and to support the equipment loads.
- C. Where indicated on the Contract Documents, install freestanding electrical equipment on concrete pads.

3.03 INSTALLATION

- A. Furnish and install supporting devices as noted throughout Division 26.
- B. Electrical device and conduit supports shall be independent of all other system supports that are not structural elements of the building, unless otherwise noted.
- C. Fasten hanger rods, conduit clamps, outlet and junction boxes to building structure using precast inserts, expansion anchors, preset inserts or beam clamps.
- D. Use toggle bolts or hollow wall fasteners in hollow masonry, plaster or gypsum board partitions and walls.
- E. Use expansion anchors or preset inserts in solid masonry walls.
- F. Use self-drilling anchors, expansion anchor or preset inserts on concrete surfaces.
- G. Use sheet metal screws in sheet metal studs and wood screws in wood construction.
- H. Do not fasten supports to piping, ductwork, mechanical equipment, conduit or acoustical ceiling suspension wires.
- I. Do not drill structural steel members unless first approved in writing by the Architect or Structural Engineer.
- J. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- K. Install surface-mounted cabinets and panelboards with minimum of four anchors. Provide additional support backing in stud walls prior to sheet rocking as required to adequately support cabinets and panels.
- L. Bridge studs top and bottom with channels to support flush mounted cabinets and panelboards in stud walls.

3.04 ERECTION OF METAL SUPPORTS

- A. Cut, fit and place miscellaneous metal fabrications accurately in location, alignment and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS "Structural Welding Code."

3.05 WOOD SUPPORTS

- A. Cut, fit and place wood grounds, nailers, blocking and anchorage accurately in location, alignment and elevation to support and anchor electrical materials and equipment.

END OF SECTION

CONDUIT

SECTION 260531 - CONDUIT

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Rigid steel conduit and fittings.
 2. PVC insulated rigid steel conduit and fittings.
 3. Electrical metallic tubing and fittings.
 4. Rigid non-metallic conduit and fittings.
 5. Flexible metallic conduit and fittings.
 6. Liquidtight flexible metallic conduit and fittings.
 7. Miscellaneous conduit fittings and products.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
1. Federal Specifications (FS):
 - FS WW-C-563; Electrical Metallic Tubing.
 - FS WW-C-566; Specification for Flexible Metal Conduit.
 - FS WW-C-581; Specification for Galvanized Rigid Conduit.
 - FS W-C-1094A; Conduit and Conduit Fittings Plastic, Rigid.
 2. American National Standards Institute, Inc. (ANSI):
 - ANSI C80.1; Rigid Steel Conduit, Zinc-Coated.
 - ANSI C80.3; Electrical Metallic Tubing, Zinc Coated.
 - ANSI C80.5; Rigid Aluminum Conduit.
 3. Underwriters Laboratories, Inc. (UL):
 - UL 1; Flexible Metal Conduit.
 - UL 6; Rigid Metal Conduit.
 - UL 360; Liquid-Tight Flexible Steel Conduit.
 - UL 514B; Conduit, Tubing and Cable Fittings.
 - UL 635; Insulating Bushings.
 - UL 651; Schedule 40 and 80 Rigid PVC Conduit.
 - UL 797; Electrical Metallic Tubing - Steel.
 - UL 1242; Intermediate Metal Conduit - Steel.
 4. National Electrical Manufacturer Association (NEMA):
 - NEMA RN1; PVC Externally coated Galvanized Rigid Steel Conduit.

CONDUIT

NEMA TC 2;	Electrical Plastic Tubing and Conduit.
NEMA TC 3;	PVC Fittings for use with Rigid PVC Conduit.
NEMA TC 6;	PVC Plastic Utilities Duct (EB and DB Type)
NEMA TC 9;	Fittings for PVC Plastic Utilities Duct (EB and DB Type)

1.03 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements the following items:
1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 3. Submit Manufacturer's installation instruction. Provide written instructions for raceway products requiring glues, special tools or specific installation techniques.

1.04 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted and approved.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
1. Metal conduit:
 - a. Allied Tube and Conduit Co.
 - b. Triangle PWC, Inc.
 - c. Western Tube and Conduit Corp.
 - d. Spring City Electrical Manufacturing Co.
 - e. Occidental Coating Co. (OCAL).
 - f. Alflex Corp.
 - g. American Flexible Metal Conduit Co.
 - h. Anaconda.
 2. Nonmetallic conduit:
 - a. Carlon.
 - b. PW Pipe.
 3. Fittings:
 - a. Appleton Electric Co.
 - b. OZ/Gedney.

CONDUIT

- c. Thomas & Betts Corp.
- d. Spring City Electrical Manufacturing Co.
- e. Occidental Coating Co. (OCAL).
- f. Carlon.

B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.02 GALVANIZED RIGID STEEL CONDUIT (GRS)

- A. Conduit: Full weight, threaded, hot-dip galvanized steel, conforming to ANSI C80.1 and UL 6.
- B. Standard threaded couplings, locknuts, bushings and elbows: Only materials of steel or malleable iron are acceptable. Locknuts shall be bonding type with sharp edges for digging into the metal wall of an enclosure.
- C. Three piece couplings: Electroplated, cast malleable iron.
- D. Insulating bushings: Threaded polypropylene or thermosetting phenolic rated 150 degree C minimum.
- E. Insulated grounding bushings: Threaded cast malleable iron body with insulated throat and steel "lay-in" ground lug with compression screw.
- F. Insulated metallic bushings: Threaded cast malleable iron body with plastic insulated throat rated 150 degrees C.
- G. All fittings and connectors shall be threaded.

2.03 PVC INSULATED GALVANIZED RIGID STEEL CONDUIT (PVC GRS)

- A. Conduit: Full weight, threaded, hot-dip galvanized steel, conforming to ANSI C80.1 and NEMA RN-1 with nominal 20 or 40 mil thermoplastic vinyl coating, heat fused and bonded to the exterior of the conduit.
- B. Fittings: Conduit couplings and connectors shall be as specified for galvanized rigid steel conduit and shall be factory PVC coated with an insulating jacket equivalent to that of the coated material.

2.04 ELECTRICAL METALLIC TUBING (EMT)

- A. Conduit: Shall be formed of cold rolled strip steel, electrical resistance welded continuously along the longitudinal seam and hot dip galvanized after fabrication. Conduit shall conform to ANSI C80.3 Specifications and shall meet UL requirements.
- B. Set screw type couplings: Electroplated, steel or cast malleable iron, UL listed concrete tight. Use set screw type couplings with four setscrews each of conduit sizes over 2 inches. Setscrews shall be of case hardened steel with hex head and cup point to firmly seat in wall of conduit for positive grounding.
- C. Set screw type connectors: Electroplated steel or cast malleable iron UL listed concrete tight with male hub and insulated plastic throat, 150 degree C temperature rated. Setscrew shall be same as for couplings.
- D. Raintight couplings: Electroplate steel or cast malleable iron; UL listed raintight and concrete tight, using gland and ring compression type construction.
- E. Raintight connectors: Electroplated steel or cast malleable iron, UL listed raintight and concrete tight, with insulated throat, using gland and ring compression type construction.

CONDUIT

2.05 RIGID NON-METALLIC CONDUIT (PVC)

A. Conduit:

1. Rigid polyvinyl chloride, Schedule 40 or 80 conforming to NEMA TC1 and UL 651, latest edition. UL listed for exposed and direct-burial applications and for 90 degrees C conductor insulation. Conduit shall include an integral bell fitting at one end.

B. Fittings: Couplings, adaptors, transition fittings, etc., shall be molded PVC, slip on, solvent weld type conforming to NEMA TC3 for Schedule 40 or 80.

2.06 FLEXIBLE METALLIC CONDUIT (FMC)

A. Conduit: Shall be fabricated in continuous lengths from galvanized steel strip, spirally wound and formed to provide an interlocking design and conforming to UL 1.

B. Fittings: Connectors shall be of the single screw clamp variety with steel or cast malleable iron bodies and threaded male hubs with insulated throats. Exception: Pressure cast screw-in connectors shall be acceptable for fixture connection in suspended ceilings and cut-in outlet boxes within existing furred walls.

2.07 LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)

A. Conduit: Shall be fabricated in continuous lengths from galvanized steel strips, interlocking spirally wound, covered with extruded liquidtight jacket of polyvinyl chloride (PVC) and conforming to UL 360. Provide conduit with a continuous copper-bonding conductor wound spirally between the convolutions.

B. Fittings: Connector body and gland nut shall be of cadmium plated steel or cast malleable iron, with tapered, male, threaded hub; insulated throat and neoprene "O" ring gasket recessed into the face of the stop nut. The clamping gland shall be of molded nylon with an integral brass push-in ferrule.

2.08 MISCELLANEOUS CONDUIT FITTINGS AND PRODUCTS

A. Watertight conduit entrance seals: Steel or cast malleable iron bodies and pressure clamps with PVC sleeve, neoprene sealing grommets and PVC coated steel pressure rings. Fittings shall be supplied with neoprene sealing rings between the body and PVC sleeve.

B. Watertight cable sealing bushings: One piece, compression molded sealing ring with PVC coated steel pressure disks, stainless steel sealing screws and zinc plated cast malleable iron locking collar.

C. Expansion fittings: Multi-piece unit comprised of a hot dip galvanized malleable iron or steel body and outside pressure bussing designed to allow a maximum of 4" conduit movement (2" in either direction). Furnish with external braid tinned copper bonding jumper. Unit shall be UL listed for wet or dry locations.

D. Expansion/deflection couplings: Multi-piece unit comprised of a neoprene sleeve with internal flexible tinned copper braid attached to bronze end couplings with stainless steel bands. Coupling shall accommodate .75-inch deflection, expansion or contraction in any direction and allow 30-degree angular deflections. Flexible, corrosion-resistant, watertight, moisture and heat resistant molded rubber jacket and stainless steel jacket clamps. Unit shall comply with UL467 and UL514. Manufacturer shall be OZ/Gedney Type DX, Steel City Type EDF or equal.

E. Fire rated penetration seals:

1. UL building materials directory classified.

CONDUIT

2. Conduit penetrations in fire rated separation shall be sealed with a UL classified fill, void or cavity material.
 3. The fire rated sealant material shall be the product best suited for each type of penetration and may be a caulk, putty, composite sheet or wrap/strip.
- F. Standard products not herein specified:
1. Provide listing of standard electrical conduit hardware and fittings not herein specified for approval prior to use or installation, i.e. locknuts, bushings, etc.
 2. Listing shall include Manufacturers name, part numbers and a written description of the item indicating type of material and construction.
 3. Miscellaneous components shall be equal in quality, material and construction to similar items herein specified.
- G. Hazardous area fittings: UL listed for the application.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of conduit system installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 APPLICATION

- A. Galvanized rigid steel conduit (GRS) shall be used in the following applications:
1. For feeders and branch circuits located indoors, concealed or exposed above suspended ceilings, in damp/wet locations, in crawl spaces, in attics, chases, furred spaces, equipment rooms, loading docks or in hazardous locations in accordance with NEC and local Codes.
 2. For feeders and branch circuits concealed in concrete floors and walls when not in contact with earth.
- B. PVC insulated galvanized rigid steel conduit shall be used in the following applications:
1. Use 40-mil coating for feeders and branch circuits in damp or wet locations.
 2. Use 20 or 40 mil for feeders and branch circuits concealed in concrete walls or slabs in contact with earth.
 3. Use 20 or 40-mil for runs beneath floor slabs on grade.
 4. Use 40-mil for all below grade penetrations through floor slabs on grade or exterior walls.
- C. Electrical metallic tubing (EMT): Shall be used exposed or concealed for interior electrical feeders 4" and smaller, interior power and lighting branch circuits and low tension distribution system where run above suspended ceilings, in concrete slabs and walls not in contact with earth; in stud walls, furred spaces and crawl spaces. EMT shall not be installed exposed below 6 feet above the finish floor except within electrical, communication or signal rooms or closets.
- D. Rigid non-metallic conduit (PVC): Shall be used in the following applications:
1. Schedule 40 or 80 for exterior branch circuits directly buried in earth, 24" minimum below grade.

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2. PVC elbows shall be radius sweep type schedule 40 for bends 45° or less and large radius sweep type schedule 80 for bends 46° or greater.
 3. In general, PVC may not be run exposed in concrete walls or in floor slabs unless expressly indicated on the Drawings.
- E. Flexible metallic conduit (FMC): Shall be used only in dry locations for connections from an adjacent outlet box or conduit to all motors, transformers, vibrating equipment or machinery, controllers, solenoid valves, float and flow switches or similar devices and to lighting fixtures installed in suspended ceilings, minimum sizes shall be 3/8" for lighting fixtures and control wiring and 1/2" for motor and transformer connections. U.O.N.
- F. Liquidtight flexible metallic conduit (LFMC): Shall be used in wet or damp locations for connections from adjacent outlet box or conduit to all motors, transformers, vibrating equipment or machinery, controllers, solenoid valves, float and flow switches or similar devices. These areas are typically food preparation and dishwashing areas, sump wells, loading docks, pump rooms, exterior areas, etc. Minimum sizes shall be 1/2".

3.03 PREPARATION

- A. Locations of conduit runs shall be planned in advance of the installation and coordinated with ductwork, plumbing, ceiling and wall construction in the same areas and shall not unnecessarily cross other conduits or pipe, nor prevent removal of ceiling tiles or panels, nor block access to mechanical or electrical equipment.
- B. Where practical, install conduits in groups in parallel vertical or horizontal runs and at elevations that avoid unnecessary offsets.
- C. All conduits shall be run parallel or at right angles to the centerlines of columns and beams, whether routed exposed, concealed above suspended ceiling or in concrete slabs.
- D. Conduits shall not be placed closer than 12 inches to a flue, parallel hot water, steam line or other heat producing source or three inches from such lines when crossing perpendicular to the runs.
- E. Exposed conduit installation shall not encroach into the ceiling height headroom of walkways or doorways. Where possible, install horizontal raceway runs above water and below steam piping.
- F. The largest trade size conduits in concrete floor and wall slabs shall not exceed 1/3 the floor or wall thickness and conduits shall be spaced a minimum of three conduit diameters apart unless otherwise noted on the Drawings. All conduits shall be installed in the center of concrete slabs or wall and shall not be placed between reinforcing steel and the bottom of floor slabs.
- G. In long runs of conduit, provide sufficient pull boxes inside buildings to facilitate pulling wires and cables, with spacing not to exceed 150 feet. Support pull boxes from structure independent of conduit supports. These pull boxes are not indicated on the Drawings.
- H. Provide all reasonably inferred standard conduits fitting and products required to complete conduit installation to meet the intended application whether noted, indicated or specified in the Contract Documents or not.
- I. Connect recessed lighting fixtures to conduit runs with maximum six feet of flexible metal conduit or MC cable extending from a junction box to the fixture or manufactured wiring system.

3.04 INSTALLATION

CONDUIT

- A. Install conduit in accordance with Manufacturer's written instructions, as indicated on Drawings and as specified herein.
- B. Minimum Conduit Size: Unless otherwise noted herein or on Drawings, minimum conduit size shall be 1/2" for interior applications and 3/4" for exterior and underground applications.
- C. All conduit sizes indicated on the Drawings are sized for copper conductors with THHN/THWN insulation. If conductor type or size is changed the Contractor shall be responsible for resizing conduits upward to meet Code.
- D. In general, all conduit work shall be concealed where possible. Exceptions shall be electrical, communication and mechanical rooms, exposed ceiling areas, and parking garages.
- E. Conduit connections to motors and surface cabinets shall be concealed, with the exception of electrical, communication and mechanical rooms, or unless exposed Work is clearly called for on the Drawings.
- F. Install conduits in complete runs before pulling in cables or wires.
- G. Install conduit free from dented, bruises or deformations. Remove and replace any damaged conduits with new undamaged material.
- H. Conduits shall be well protected and tightly covered during construction using metallic bushings and bushing "pennies" to seal open ends.
- I. In making joints in rigid steel conduit, ream conduit smooth after cutting and threading. Coat all field-threaded joints with UL approved conductive type compound to ensure low resistance ground continuity through conduit and to prevent seizing and corrosion.
- J. Clean any conduit in which moisture or any foreign matter has collected before pulling in conductors. Paint all field-threaded joints to prevent corrosion.
- K. In all empty conduits or ducts, install a "True Tape" conduit measuring tape line to provide overall conduit length for determining length of cables/conductors for future use.
- L. Conduit systems shall be mechanically and electrically continuous throughout. Install code size, insulated, copper, green-grounding conductors in all conduit runs for branch circuits and feeders. This conductor is not indicated on the Drawings. Refer to Section 260526: Grounding and Bonding.
- M. Metallic conduit shall not be in contact with other dissimilar metal pipes (i.e. plumbing).
- N. Make bends with standard conduit bending hand tool or machines. The use of any item not specifically designed for the bending of electrical conduit is strictly prohibited.
- O. A run of conduit between terminations at wire pulling points shall not contain more than the equivalent of four quarter bends (360 degrees, total).
- P. Emergency power raceway system: Install entirely independent of other raceway systems, except where specifically allowed by NEC Article 517.
- Q. Conduit for conductors above 600 volts use rigid steel.

3.05 PENETRATIONS

- A. Cutting or holes:
 - 1. Cut holes through concrete, masonry block or brick floors and floors of structure with a diamond core drill or concrete saw. Pneumatic hammer, impact electric, hand or manual hammer type drills are not allowed, except where permitted by the Architect as required

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by limited working space. Obtain the approval of the Architect prior to drilling through structural sections.

2. Cut holes for conduit penetrations through non-concrete and non-masonry walls, partitions or floors with a hole saw. The hole shall be only as large as required to accommodate the size of the conduit.
3. Provide single piece escutcheon plates around all exposed conduit penetrations in public places.

B. Sealing:

1. Non-rated penetrations: Pack opening around conduits with non-flammable insulating material and seal with gypsum wallboard taping compound.
2. Fire stop: Where conduits, wireways and other electrical raceways pass through fire rated partitions, walls, smoke partitions or floor; install a UL classified fire stop material to provide an effective barrier against the spread of fire, smoke and gases. Completely fill and seal clearances between raceways and openings with the fire stop material.

C. Waterproofing: At floor, exterior wall and roof conduit penetrations, completely seal clearances around the conduit and make watertight as specified in Division 07: Sealants and Caulking.

1. Install specified watertight conduit entrance seals at all below grade wall and floor penetrations. Conduits penetrating exterior building walls and building floor slab shall be PVC coated rigid galvanized steel.
2. For roof penetrations furnish and install roof flashing, counter flashing and pitch-pockets as specified under Roofing and Sheet Metal Sections of the Specifications.
3. Provide membrane clamps and cable sealing fittings for any conduit that horizontally penetrates the waterproof membrane.
4. Conduits that horizontally penetrate a waterproof membrane shall fall away from and below the penetration on the exterior side a minimum of two times the conduit diameters.

3.06 TERMINATIONS AND JOINTS

- A. Use raceway fittings that are of types compatible with the associated raceway and suitable for the use and location. For intermediate steel conduit, use threaded rigid steel conduit fittings except as otherwise indicated.
- B. Raceways shall be joined using specified couplings or transition couplings where dissimilar raceway systems are joined.
- C. Conduits shall be securely fastened to cabinets, boxes and gutters using two locknuts and an insulating bushing or specified insulated connectors. Where joints cannot be made tight, use bonding jumpers to provide electrical continuity of the raceway system. Where terminations are subject to vibration, use bonding bushings or wedges to assure electrical continuity. Where subject to vibration or dampness, use insulating bushings to protect conductors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric or eccentric knockouts.
- D. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.
- E. Stub-up connections: Extend conduits through concrete floor for connection to freestanding equipment with an adjustable top or coupling threaded inside for plugs and set flush with the

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finished floor. Extend conductors to equipment with rigid steel conduit; flexible metal conduit may be used 6 inches above the floor. Where equipment connections are not made under this contract, install screwdriver operated threaded flush plugs with floor.

- F. Install specified cable sealing bushings on all conduits originating outside the building walls and terminating in switchgear, cabinets or gutters inside the building. Install cable sealing bushings or raceway seal for conduit terminations in all grade level or below grade exterior pull, junction or outlet boxes.
- G. Install expansion couplings where any conduit crosses a building separation or expansion joint as follows:
 - 1. Conduits three inches and larger, shall be rigidly secured to the building structure on opposite sides of a building expansion joint and provided with expansion or deflection couplings. Install the couplings in accordance with the Manufacturer's recommendations.
 - 2. Conduits smaller than three inches shall be rigidly secured to the building structure on opposite sides of a building expansion joint with junction boxes on both sides of the joint. Connect conduits to junction boxes with 15 inches of slack flexible conduit. Flexible conduit shall have a copper green ground-bonding jumper installed. For concrete embedded conduit, use expansion and deflection couplings as specified above for three inches and larger conduits.
- H. Use short length (maximum of 6ft) of the appropriate FMC or LFMC conduit for connections to motors and other electrical equipment subject to movement, vibration, misalignment, cramped quarters or noise transmission. Provide liquidtight flexible metal conduit for installation in exterior locations, moisture or humidity-laden atmosphere, corrosive atmosphere, water hose or spray wash-down operations and locations subject to seepage or dripping of oil, grease or water. Provide a green ground wire with FMC or LFMC conduit.

3.07 SUPPORTS

- A. Provide supports for raceways as specified in Section 260529: Electrical Hangers and Supports.
- B. All raceways systems shall be secured to building structures using specified fasteners, clamps and hangers spaced according to the NEC.
- C. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet locations, install "clamp backs" to space conduit off the surface.
- D. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from specified construction channel, mounted to 3/8-inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard one-hole pipe clamps or the equivalent. Provide lateral seismic bracing for hangers.
- E. Individual 1/2" and 3/4" conduits installed above suspended ceilings may be attached to the ceiling's hanger wire using spring steel support clips provided that not more than two conduits are attached to any single support wire.
- F. Support exposed vertical conduit runs at each floor level, independent of cabinets or switches to which they run, by means of acceptable supports.
- G. Fasteners and supports in solid masonry and concrete:
 - 1. Use steel or malleable iron concrete inserts set in place prior to placing the concrete.
 - 2. After concrete installation:

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- a. Steel expansion anchors not less than $\frac{1}{4}$ inch bolt size and not less than 1-1/8 inch embedment.
 - b. Power set fasteners not less than $\frac{1}{4}$ inch diameter with depth of penetration not less than three inches.
 - c. Use vibration and shock resistant anchors and fasteners for attaching to concrete ceilings.
- H. Hollow masonry: Toggle bolts are permitted. Bolts supported only by masonry block are not acceptable.
- I. Metal structures: Use machine screw fasteners or other devices specifically designed and approved for the application.

END OF SECTION

BOXES

SECTION 260533 - BOXES

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
 - 1. Wall and ceiling outlet boxes.
 - 2. Pull and junction boxes.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.
 - 1. Division 08: Access doors. Wall and ceiling access doors.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified.
 - 1. American National Standards Institute/National Electrical Manufacturer Association:
 - ANSI/NEMA OS-1; Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports.
 - ANSI/NEMA OS-2; Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
 - NEMA 250; Enclosures for Electrical Equipment (1000 volts maximum).
 - 2. Underwriters Laboratories (UL):
 - UL 50; Enclosures for Electrical Equipment.
 - UL 514A; Metallic Outlet Boxes.
 - UL 1773; Termination Boxes.

1.03 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
 - 1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 - 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 - 3. Submit Manufacturer's installation instructions.

1.04 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.

BOXES

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
1. Outlet and junction boxes:
 - a. Spring City Electrical Manufacturing Co.
 - b. Thomas & Betts Corp.
 - c. Raco, Inc.
 2. Cast boxes:
 - a. Appleton Electric Co.
 - b. Crouse-Hinds.
 3. Pullboxes:
 - a. Circle AW Products.
 - b. Hoffman Engineering Co.
 4. Precast concrete boxes:
 - a. Christy Concrete Products, Inc.
 - b. Brooks Products, Inc.
 - c. Forni Corp.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.02 OUTLET BOXES

- A. Standard outlet box:
1. Provide galvanized, one-piece die formed or drawn steel, knockout type box of size and configuration best suited to the application indicated on the Drawings.
 2. 4-inch square by 1-1/2 inch deep shall be minimum box size.
 3. ANSI/NEMA OS 1.
- B. Concrete box:
1. Provide galvanized steel, 4-inch octagon rings with mounting lugs, backplate and adapter ring as required.
 2. Select height as necessary to position knockouts above concrete reinforcing steel.
 3. ANSI/NEMA OS 1.
- C. Tile box:
1. Provide outlet boxes for installation in tile or concrete block walls.
 2. Standard outlet boxes with raised, square corners and device covers are acceptable.
 3. ANSI/NEMA OS 1.
- D. Cast metal outlet body:

BOXES

1. Provide four inch round, galvanized cast iron alloy with threaded hubs and mounting lugs as required.
 2. Provide boxes with cast cover plates of the same material as the box and neoprene cover gaskets.
- E. Conduit outlet body: Provide Cadmium plated cast iron alloy, oblong conduit outlet bodies with threaded conduit hubs and neoprene gasket, cast iron covers.

2.03 PULL AND JUNCTION BOXES

- A. Sheet metal pull and junction box:
1. Provide standard outlet or concrete ring boxes wherever possible; otherwise use minimum 16 gauge galvanized sheet metal, NEMA 1 boxes, sized to Code requirements with covers secured by cadmium plated machine screws located 6 inches on centers.
 2. ANSI/NEMA OS 1.
- B. Cast metal pull and junction box: Provide standard cast malleable iron outlet or device boxes wherever possible; otherwise use cadmium plated, cast malleable iron boxes with bolt-on, interchangeable conduit hub plates with neoprene gaskets.
- C. Flush mounted pullboxes and junction boxes: Provide overlapping covers with flush head cover retaining screws, prime coated.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of box installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 PREPARATION

- A. Install all outlet boxes flush with building walls, ceilings and floors except where boxes are installed in mechanical and electrical rooms, in cabinetry, above accessible ceilings or where exposed Work is called for on the Drawings.
- B. Locate pullboxes and junction boxes in concealed locations above removable ceilings or exposed in electrical rooms, utility rooms or storage areas.
- C. Install outlet boxes at the locations and elevations indicated on the Drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.
- D. Locate switch outlet boxes on the latch side of doorways unless otherwise indicated.
- E. Locate outlet boxes above hung ceilings having concealed suspension systems, adjacent to openings for removable recessed lighting fixtures.
- F. Do not install outlet boxes back-to-back, separate boxes by at least 6". In fire rated walls separate boxes by at least 24" and wall stud.
- G. Adjust position of outlet boxes in finished masonry walls to suit masonry course lines. Coordinate cutting of masonry walls to achieve neat openings for boxes.

3.03 INSTALLATION

- A. Install boxes in accordance with Manufacturer's written instructions, as indicated on Drawings and as specified herein.

BOXES

- B. Locate electrical boxes as indicated on Drawings and as required for splices, taps, wire pulling, equipment connections and Code compliance.
- C. Install junction or pullboxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowable for the cable to be installed. Note that these boxes are not indicated on the Drawings.
- D. Install raised covers (plaster rings) on all outlet boxes in stud walls or in furred, suspended or exposed concrete ceilings. Covers shall be of a depth to suit the wall or ceiling finish.
- E. Leave no unused openings in any box. Install close-up plugs as required to seal openings.
- F. Provide cast metal boxes with gasketed cast metal cover plates where boxes are exposed in damp or wet locations.
- G. Provide precast concrete boxes in exterior planting areas, walkways, roads etc.
- H. Provide an access panel in permanent ceiling or wall where boxes are installed and will be inaccessible.
- I. For boxes mounted in exterior walls, make sure that there is insulation behind outlet boxes to prevent condensation in boxes.
- J. For outlets mounted above counters, benches or backsplashes, coordinate location and mounting heights with built-in units. Adjust mounting height to agree with required location for equipment served.
- K. Use conduit outlet bodies to facilitate pulling of conductors or to make changes in conduit direction only. Do not make splices in conduit outlet bodies.
- L. Add additional sheet rock as necessary to maintain original fire rating of walls where boxes are installed.
- M. Install galvanized steel coverplates on boxes in unfinished areas, above accessible ceilings and on surface mounted outlets.

3.04 SUPPORTS

- A. Provide boxes installed in metal stud walls with brackets designed for attaching directly to the studs or mount boxes on specified box supports.
- B. Mount boxes, installed in suspended ceilings of gypsum board or lath and plaster construction, to 16 gauge metal channel bars attached to main ceiling runners.
- C. Support boxes independently of conduit system.
- D. Support boxes, installed in suspended ceilings supporting acoustical tiles or panels, directly from the structure above wherever pendant mounted lighting fixtures are to be installed from the box.
- E. Support boxes, mounted above suspended acoustical tile ceilings, directly from the structure above.

END OF SECTION

UNDERGROUND DUCTS AND STRUCTURES

SECTION 260543 - UNDERGROUND DUCTS AND STRUCTURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Underground conduits and ducts.
 2. Handhole and pullboxes.
 3. Excavation, trenching and backfill.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
1. Federal Specifications (FS):
FS W-C-1094A; Conduit and Conduit Fittings Plastic, Rigid.
 2. American Concrete Institute (ACI):
ACI 318; Building Code Requirements for Structural Concrete
 3. American Society for Testing And Materials (ASTM):
ASTM C31; Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39; Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C172; Standard Practice for Sampling Freshly Mixed Concrete
ASTM C192; Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C231; Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C478; Specification for Precast Reinforced Concrete Manhole Sections
ASTM C805; Test Method for Rebound Number of Hardened Concrete
ASTM C857; Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
ASTM C858; Specification for Underground Precast Concrete Utility Structures
ASTM C877; Specification for External Sealing Bands for Concrete Pipe, Manholes and Precast Box Sections
ASTM C891; Practice for Installation of Underground Precast Concrete Utility Structures
ASTM C990; Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

UNDERGROUND DUCTS AND STRUCTURES

ASTM C1037;	Practice for Inspection of Underground Precast Concrete Utility Structures
ASTM C1064;	Standard Test Method for Temperature of Freshly Mixed Concrete
ASTM C1231;	Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinder
ASTM C1611;	Standard Test Method for Slump Flow of Self-Consolidating Concrete

1.03 DEFINITIONS

- A. Duct: Electrical conduit and other raceway, either metallic or nonmetallic, used underground embedded in earth.
- B. Duct bank: Two or more conduits or other raceway installed underground in same trench.
- C. Handhole: An underground junction box in a duct or duct bank.

1.04 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
 - 1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 - 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 - 3. Shop Drawings showing details and design calculations for precast handholes, including reinforced steel.
 - 4. Submit Manufacturer's installation instructions.
 - 5. Complete bill of material listing all components.

1.05 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted and approved.
- C. Precast concrete vaults shall be designed and fabricated by an experienced and acceptable precast concrete manufacturer. The manufacturer shall have been regularly and continuously engaged in the manufacture of precast concrete units similar to that indicated in the project specifications or drawings for at least 10 years.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
 - 1. Underground precast concrete utility structures:
 - a. Oldcastle Enclosure Solutions.

UNDERGROUND DUCTS AND STRUCTURES

- b. Jensen Precast.
- 2. Conduits, ducts and fittings:
 - a. Refer to 260531.
- B. Substitution: Under provisions of Section 260010: Basic Electrical Requirements.

2.02 CONDUIT AND DUCT

- A. Refer to 160531: Conduit.
- B. Duct supports: Rigid PVC spacers selected to provide minimum duct spacing and concrete cover depths, while supporting ducts during concrete pour.
- C. Duct sealing compound: Non-hardening, safe for human skin contact, not deleterious to cable insulation, workable at temperatures as low as 35 degree F, withstands temperature of 300 degrees F without slump and adheres to clean surfaces of plastic ducts, metallic conduits, conduit coatings, concrete, cable sheaths and jackets, etc.

2.03 PULLBOXES AND HANDHOLES

- A. Construction: High densities precast reinforced concrete box, extension, base and cover. Furnish box with end and side knockouts and non-settling shoulders. Cover shall have hold-down bolts and two lifting eyes.
- B. Size: As indicated on the Drawings.
- C. Cover markings: Covers shall read "ELECTRICAL" or "SIGNAL" as appropriate.
- D. Rated covers: Use cast iron lid with H20 traffic rating when subject to vehicular traffic.

2.04 CONSTRUCTION MATERIALS

- A. Mortar: Conform to ASTM C270, Type M, except for quantities less than 2.0 Cu. Ft., where packaged mix complying with ASTM C387, Type M may be used.
- B. Concrete: Cast-in-place concrete for concrete and reinforcing.
 - 1. Strength: 3,000-PSI minimum 28-day compressive strength.
 - 2. Aggregate for duct encasement: 3/8-inch maximum size.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of duct and manhole installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 EARTHWORK

- A. Excavation and backfill: Refer to drawings.
- B. Excavation for underground electrical structures: Conform to elevations and dimensions indicated within a tolerance of plus or minus 0.10 foot; plus a sufficient distance to permit placing and removal of concrete formwork, installation or services, other construction and for inspection.
 - 1. Excavate, by hand, areas within drip-line of large trees. Protect the root system for damage and dry-out. Maintain moist conditions for root system and over exposed roots

UNDERGROUND DUCTS AND STRUCTURES

with burlap. Paint root cuts of 1 inch in diameter and larger with emulsified asphalt tree paint.

2. Take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed.
- C. Trenching: Excavate trenches for electrical installation as follows:
1. Excavate trenches to the uniform width, sufficiently wide to provide ample working room and a minimum of 6 to 9 inches clearances on both sides of raceways and equipment.
 2. Excavate trenches to depth indicated or required.
 3. Limit the length of open trench to that in which installations can be made and the trench backfilled within the same day.
 4. Where rock is encountered, carry excavation below required elevation and backfill with a layer of crushed stone or gravel prior to installation of raceways and equipment. Provide a minimum of 6 inches of stone or gravel cushion between rock bearing surface and electrical installations.
- D. Backfilling and filling: Provide sand around conduit (a minimum of 3" on bottom sides and top). Place soil materials in layers to required sub-grade elevations for each area classification. Compact per drawings

3.03 CONDUIT AND DUCT INSTALLATION

- A. Install duct lines in accordance with Manufacturer's written instructions, as indicated on the Drawings and as specified herein.
- B. Application:
1. Direct burial ducts: Schedule 40, minimum 24-inches below finished grade.
 2. Below roads and paved surfaces:
 - a. Schedule 80, minimum 36-inches below finished grade.
- C. Slope duct to drain towards handholes and away from building and equipment entrances. Pitch not less than 4-inches per 100-feet. Curved sections in duct lines shall consist of long sweep bends with a minimum radius of 25-feet in the horizontal and vertical directions. The use of manufactured bends is limited to building entrances and equipment stub-ups.
- D. Underground conduit stub-ups to inside of building and exterior equipment shall be PVC insulated rigid steel.
- E. Make joints in ducts and fittings watertight according to Manufacturer's instructions. Stagger couplings so those of adjacent ducts do not lie in the same plane.
- F. Terminate duct lines at handholes with end bells spaced 10-inches on center for 5-inch ducts and varied proportionately for other duct sizes. Change from regular spacing to end-bell spacing 10-feet from the end bell without reducing duct line slope and without forming trap in the line.
- G. Separation between direct buried duct lines shall be 3-inches minimum for like systems and 6 inches minimum between power and signal ducts.
- H. For direct burial installations install continuous warning strip of heavy gage plastic imprinted "electrical ducts below", approximately 12-inch wide at 12-inches above ducts.
- I. Mandrel all ducts upon completion of installation and prior to pulling cables.

UNDERGROUND DUCTS AND STRUCTURES

3.04 HANDHOLE AND PULL BOX INSTALLATION

- A. Install handholes in accordance with Manufacturer's written instructions, as indicated on Drawings and as specified herein.
- B. Handholes shall be installed flush with finished grade or surface. Install on a level 6-inch bed of well-tamped gravel or crushed stone.
- C. Orientation of handholes shall be coordinated in advance with Landscape Architect and arranged to minimize connecting duct bends and deflections.

3.05 FIELD QUALITY CONTROL

- A. Testing: Demonstrate capability and compliance with requirements upon completion of installation of underground duct and structures.
 - 1. Duct integrity: Rod ducts with a mandrel 1/4-inch smaller in diameter than internal diameter of ducts. Where rodding indicates obstructions in ducts, remove the obstructions and retest.

3.06 CLEANING

- A. Pull brush through full length of ducts. Use round bristle brush with a diameter 1/2-inch greater than internal diameter of duct.
- B. Clean internal surfaces of handholes. Remove foreign material.

END OF SECTION

ELECTRICAL IDENTIFICATION

SECTION 260553 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Electrical equipment nameplates.
 2. Wire and cable identification.
 3. Buried electrical line warnings.
 4. Junction box identification.

1.02 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
1. Data/catalog cuts for each product and component specified herein.
 2. Schedules for nameplates to be furnished.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
1. Conduit and wire markers:
 - a. Thomas & Betts Corp.
 - b. Brady.
 - c. Griffolyn.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.02 NAMEPLATES

- A. Type NP: Engraved, plastic laminated labels, Signs and Instruction Plates. Engrave stock melamine plastic laminate 1/16-inch minimum thickness for signs up to 20 square inches or 8 inches in length; 1/8 inch thick for larger sizes. Engraved nameplates shall have white letters and be punched for mechanical fasteners.
- B. Color and letter height as specified in Part 3: Execution.

2.03 WIRE AND TERMINAL MARKERS

- A. Provide self-adhering, pre-printed, machine printable or write-on, self-laminating vinyl wrap around strips. Blank markers shall be inscribed using the printer or pen recommended by Manufacturer for this purpose.

2.04 CONDUCTOR PHASE MARKERS

- A. Colored vinyl plastic electrical tape, 3/4" wide, for identification of phase conductors. Scotch 35 Brand Tape or equal.

2.05 UNDERGROUND CONDUIT MARKER

ELECTRICAL IDENTIFICATION

- A. 6-inch wide, yellow polyethylene tape, with continuous black imprinting reading "Caution - Buried Electric Line Below".

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of identification device installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 NAMEPLATES

- A. Installation:
 - 1. Degrease and clean surfaces to receive nameplates.
 - 2. Install nameplates parallel to equipment lines.
 - 3. Secure nameplates to equipment fronts using machine screws.
- B. Provide type 'NP' color coded nameplates that present, as applicable, the following information:
 - 1. Equipment or device designation:
 - 2. Signal system name.
 - 3. Source of power or control.
- C. Nameplates for power system distribution equipment and devices are to be black.
- D. Nameplates for signal systems equipment and devices are to be black except as follows:
 - 1. Fire alarm and life safety - Red.
- E. Minimum letter height shall be as follows:
 - 1. For equipment cabinets, terminal cabinets, control panels and other cabinet enclosed apparatus use 3/8-inch letters to identify equipment designation.

3.03 WIRE AND CABLE IDENTIFICATION

- A. Provide wire markers on each conductor in panelboards, pull boxes, outlet and junction boxes and at load connection. Identify with branch circuit or feeder number for power and lighting circuits and with control wire number as indicated on equipment Manufacturer's Shop Drawings for control wiring.
- B. Provide colored phase markers for conductors as noted in Section 260519: Building Wire and Cable. Apply colored, pressure sensitive plastic tape in half-lapped turns for a distance of 3 inches from terminal points and in boxes where splices or taps are made. Apply the last two laps of tape with no tension to prevent possible unwinding. Do not cover cable identification markings by taping.

3.04 UNDERGROUND CONDUIT MARKERS

- A. During trench backfilling, for exterior underground power, signal and communications lines, install continuous underground plastic line marker, located directly above line at 6 to 8 inches below finished grade. Where multiple lines installed in a common trench or concrete envelope, do not exceed an overall width of 16 inches; install a single line marker.

3.05 JUNCTION BOX IDENTIFICATION

ELECTRICAL IDENTIFICATION

- A. The cover of junction, pull and connection boxes for both power and signal systems, located above suspended ceilings and below ceilings in non-public areas, shall be clearly marked with a permanent ink felt pen. Identify the circuit(s) (panel designation and circuit numbers) contained in each box, unless otherwise noted or specified.

END OF SECTION

FIRE ALARM/LIFE SAFETY SYSTEM

SECTION 283100 - FIRE ALARM/LIFE SAFETY SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
 - 1. Life safety control panel (LSCP).
 - 2. Initiating devices.
 - 3. Notification devices.
 - 4. Zone modules
 - 5. Expansion panels
 - 6. Remote annunciator panels.
 - 7. Power supplies
 - 8. Complete CSFM listed components
 - 9. Fully operational
 - 10. Pretesting and final testing.
 - 11. DSA completion certification
 - 12. Record Drawings.
- B. Work furnish and installed under another Section, but connected under this Section:
 - 1. Fire sprinkler alarm system flow switches, valve monitors and post indicating valves (P.I.V.).
 - 2. Fire pump controller to monitor status.
 - 3. Fan and fire/smoke damper control system for smoke management.
- C. Work furnish and connected to life safety system under this Section, but installed and connected to HVAC system under another Section:
 - 1. Duct mounted smoke detectors.
 - 2. In-duct mounted smoke detectors for fire/smoke damper control. Except that wiring for damper power, control and monitoring shall be under this contract.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
 - 1. American National Standards Institute, Inc. (ANSI):
 - ANSI C62.41; Guide for Surge Voltage in Low-Voltage AC Power Circuits.
 - 2. National Fire Protection Association (NFPA):
 - NFPA 72; National Fire Alarm Code with CSFM amendments
 - NFPA 101; Life Safety Code.
 - 3. California Building Code: 2013

FIRE ALARM/LIFE SAFETY SYSTEM

- CBC 905; Smoke Control.
- 4. California Electrical Code: 2013
- 5. Underwriters Laboratories, Inc. (UL):
 - UL 38; Manual Signaling Boxes Fire Alarm Systems.
 - UL 268; Smoke Detectors for Fire Alarm Signaling Systems.
 - UL 268 A; Smoke Detectors for Duct Application.
 - UL 464; Audible Signal Appliances.
 - UL 497B; Protectors for Data Communications and Fire Alarm Circuits.
 - UL 521; Heat Detectors for Fire Protective Signaling Systems.
 - UL 864; Control Units and Accessories for Fire Alarm Systems.
 - UL 1424; Cables for Power-Limited Fire-Alarm Circuits.
 - UL 1480; Speakers for Fire Alarm, Emergency and Commercial and Professional Use.
 - UL 1481; Power Supplies for Fire-Protective Signaling Systems.
 - UL 1638 Visual Signaling Appliances Standard.
 - UL 1711; Amplifiers for Fire Protective Signaling Systems.
 - UL 1971 Signal Devices for Hearing Impaired.
- 6. Factory Mutual System (FM) approval guide.
 - FM P7825 Approval Guide.

1.03 DEFINITIONS

- A. Alarm signal: A signal that indicates a state of emergency requiring immediate notification of the fire department and building occupants.
- B. Supervisory signal: A signal that indicates the impairment of a fire protection system, which may prevent its normal operation.
- C. Trouble signal: A signal that indicates that a fault, such as an open circuit or ground, has occurred in the fire alarm system or in a separate subsystem monitored by the fire alarm system.
- D. Initiating device: A system component that originates transmission of a change of state condition, which initiates an appropriate response via the fire alarm system.
- E. Notification device circuit: A circuit to which notification devices are connected to visually and audibly indicate an alarm signal.
- F. Signaling line circuit: A circuit to which any combination of circuit interfaces, control units or transmitters are connected and over which multiple system input signals or output signals are carried.
- G. Class A wiring: A circuit that is monitored for integrity such that a single break, a single wire-to-wire short or a single loss of carrier condition will be indicated by a trouble signal on the FACP no matter where the break, short or loss of carrier condition occurs and will allow all functions of the affected circuit to remain operational. This would be Style 7 wiring for signaling line circuits.

FIRE ALARM/LIFE SAFETY SYSTEM

- H. Class B wiring: A circuit that is monitored for integrity such that a single break, a single wire-to-wire short or a single loss of carrier condition will be indicated by a trouble signal on the FACP no matter where the break, short or loss of carrier condition occurs, but which would prohibit devices beyond the fault, short or carrier loss from remaining operational. This would be Style 3 wiring for signaling line circuits, Style B for initiating device circuits and Style Y for notification device circuits.

1.04 SYSTEM DESCRIPTION

- A. Demolition of the existing Fire Alarm Control Panel, booster panels, notification devices, annunciating devices, modules, relays and fire alarm cabling. Remove all fire alarm cabling from site conduits, and building conduits to origination.
- B. A new intelligent reporting, Style 7 networked, fully peer-to-peer, microprocessor-controlled fire detection and emergency voice alarm communication system shall be installed in accordance with the specifications and as indicated on the Drawings.
- C. Each Signaling Line Circuit (SLC) and Notification Appliance Circuit (NAC): Limited to only 80 percent of its total capacity during initial installation.
- D. Basic Performance:
 - 1. Network Communications Circuit (Net SOLO) Serving Network Nodes: Wired using single twisted non-shielded 2-conductor cable and connected using existing fiber optic cable between nodes in Class A configuration.
 - 2. Signaling Line Circuits (SLC) Serving Addressable Devices: Wired Class B.
 - 3. Initiation Device Circuits (IDC) Serving Non-addressable Devices Connected to Addressable Monitor Modules: Wired Class B.
 - 4. Notification Appliance Circuits (NAC) Serving Strobes, and Speakers: Wired Class B.
 - 5. On Class A Configurations: Single ground fault or open circuit on Signaling Line Circuit shall not cause system malfunction, loss of operating power, or ability to report alarm.
 - 6. Transponders:
 - a. Operate in peer-to-peer fashion with other panels and transponders in system.
 - b. Each transponder shall store copy of audio evacuation messages and tones.
 - c. Systems that use centralized message storage and control at main fire alarm control panel shall not be acceptable.
 - 7. Network Node Communications, Audio Evacuation Channels and Fire Phone Communications:
 - a. Communicated between panels and transponders on fiber optic cables.
 - 9. Signaling Line Circuits (SLC):
 - a. Reside in remote transponders with associated audio zones.
 - b. SLC modules shall operate in peer-to-peer fashion with all other panels and transponders in system.
 - c. On loss of INCC Command Center, each transponder shall continue to communicate with remainder of system, including all SLC functions and audio messages located in all transponders.

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- d. Systems that provide a "Degraded" mode of operation upon loss of INCC Command Center or short in riser shall not be acceptable.
 10. Audio Amplifiers and Tone-Generating Equipment: Electrically supervised for normal and abnormal conditions.
 11. Amplifiers: Located in transponder cabinets serving no more than 3 floors per transponder to enhance system survivability, reduce required riser wiring, simplify installation, and reduce power losses in length of speaker circuits.
 12. Speaker NAC Circuits: Arranged such that there is a minimum of 1 speaker circuit per fire alarm zone.
 13. Notification Appliance Circuits (NAC), Speaker Circuits, and Control Equipment: Arranged such that loss of any 1 speaker circuit will not cause loss of any other speaker circuit in system.
 14. Speaker Circuits:
 - a. Electrically supervised for open and short circuit conditions.
 - b. If short circuit exists on speaker circuit, it shall not be possible to activate that circuit.
 - c. Arranged for 70 VRMS and shall be power limited in accordance with NEC
 - d. 20 percent spare capacity for future expansion or increased power output requirements.
 15. Speaker Circuits and Control Equipment:
 - a. Arranged such that loss of any 1 speaker circuit will not cause loss of any other speaker circuit in system.
 - b. Systems utilizing "bulk" audio configurations shall not be acceptable.
 16. 2-Way Telephone Communication Circuits:
 - a. Shall communicate digitally over the network between transponders.
 - b. Supervised for open and short circuit conditions.
 - c. Short circuit condition on 2-way telephone communications circuit shall result in trouble condition and not result in call-in condition.
 17. Voice Communication:
 - a. Connect telephone circuits to speaker circuits to allow voice communication over speaker circuit from telephone handset.
 - b. Capable of remote phone-to-phone conversations and party-line communications as required.
- D. Basic System Functional Operation: When fire alarm condition is detected and reported by 1 of the system alarm initiating devices, the following functions shall immediately occur:
1. System Alarm LEDs: Flash.
 2. Local Piezo-Electric Signal in Control Panel: Sound at a pulse rate.
 3. 80-Character LCD Display: Indicate all information associated with fire alarm condition, including type of alarm point and its location within protected premises.
 4. Historical Log: Record information associated with fire alarm control panel condition,

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along with time and date of occurrence. History Log shall have capacity for recording up to 4,100 events.

5. System output programs assigned via control-by-event equations to be activated by particular point in alarm shall be executed, and the associated system outputs (alarm notification appliances and/or relays) shall be activated.
 - a. Close Fire Doors
 - b. Shut down air handlers as required by code
 - c. Notify the Central Station or Municipal Tie.
 6. Strobes flash synchronized continuously.
 7. Audio Portion of System: Sound alert tone followed by pre-recorded message determined by event and this scenario repeating or other message as approved by local authority until system is reset.
- E. Fire Alarm System Functionality:
1. Provide complete, electrically supervised distributed, Class A networked analog/addressable fire alarm and control system, with analog initiating devices, integral multiple-channel voice evacuation, and fire fighter's phone system.
 2. Fire Alarm System:
 - a. Consist of multiple-voice channels with no additional hardware required for total of 4 channels.
 - b. Incorporate multiprocessor-based control panels, including model E3 Series modules includes Intelligent Network INCC Command Center(s) (INCC), Intelligent Loop Interface (ILI-MB-E3 or ILI95-MB-E3), Intelligent Network Transponders (INX), communicating over peer-to-peer token ring network with standard capacity of up to 64 nodes expandable to 122.
 3. Each ILI-MB-E3 or ILI95-MB-E3 Node: Incorporate 2 Signaling Line Circuits (SLC), with capacity to support in Velociti[®] mode up to 159 analog addressable detectors and 159 addressable modules per ILI-MB-E3 SLC or support in Apollo mode up to 126 detectors and modules per ILI95-MB-E3 SLC.
 4. Voice, Data, and Fire Fighter's Phone Riser: Transmit over single pair of wires or fiber optic cable.
 5. Each Intelligent Network Transponder: Capable of providing 16 distributed voice messages, fire fighter phones connections, SLC loop for audio control devices, and integral network interface.
 6. Each Network Node: Incorporate Boolean control-by-event programming, including as a minimum AND, OR, NOT, and Timer functions.
 7. Control Panels: Capability to accept firmware upgrades via connection with laptop computer, without requirement of replacing microchips.
 8. Network:
 - a. Based on peer-to-peer token ring technology operating at 625 K baud, using Class A configuration.
 - b. Capability of using twisted-pair wiring, pair of fiber optic Multi-mode cable strands up to 200 microns or Single-mode optimized for 9/125 microns, or any combination,

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to maximize flexibility in system configuration.

9. Each Network Node:
 - a. Capability of being programmed off-line using Windows-based software supplied by fire alarm system manufacturer. Capability of being downloaded by connecting laptop computer into any other node in system. Systems that require system software to be downloaded to each transponder at each transponder location shall not be acceptable.
 - b. Capability of being grouped with any number of additional nodes to produce a "Region", allowing that group of nodes to act as 1, while retaining peer-to-peer functionality. Systems utilizing "Master/Slave" configurations shall not be acceptable.
 - c. Capability of annunciating all events within its "Region" or annunciating all events from entire network, on front panel LCD or touch screen display without additional equipment.
10. Each SLC Network Node: Capability of having integral DACT (digital alarm communicator transmitter) that can report events in either its region, or entire network to single central station monitoring account.
11. Each Control Panel: Capability of storing its entire program, and allow installer to activate only devices that are installed during construction, without further downloading of system.
12. Password Protection: Each system shall be provided with 4 levels of password protection with up to 16 passwords.
13. Have the capacity for multiple pre-recorded messages (at least sixteen (16), but more if required by local AHJ) and address a list of subjects.
 - a. Fire evacuation and relocation
 - b. Intruder or hostile person sighted within or around the building grounds
 - c. Directions to occupants to take cover within building
 - d. Emergency weather conditions appropriate for local area
 - e. All Clear

1.05 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
 1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 2. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 3. Describe system operation, equipment and dimensions and indicate features of each component.
 4. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 5. Shop Drawings shall include:
 - a. Basic:

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- 1) Name of Owner and occupant.
 - 2) Address of the building.
 - 3) Contractor's name, address, telephone number and license number.
 - b. Symbols legend.
 - c. Equipment list showing quantity, make, model and CSFM listing number for each device.
 - d. Wire and cable schedule.
 - e. Scope of Work with overall system description.
 - f. Sequence of operation matrix with system inputs signals and output functions.
 - g. Code summary and Building type.
 - h. Assignment of Class and/or Style designation for device circuits.
 - i. Plot plan and floor plans of building with partitions, walls and room identification, showing locations of each device and control/monitoring equipment, communication equipment, conduit routing and size and cable/conductor type and quantity. Field devices shall all have a discrete identification designation located adjacent to each device on the Drawings.
 - j. Point-to-point wiring diagram in block or riser format showing all fire alarm components, device designations, conduit, wire types and sizes.
 - k. Provide 1/4" scale plan of equipment layout in main fire control room.
 - l. Include elevations of control panels, fireman's fan and damper control panel, voice communications panel, graphic annunciator panel and remote annunciator panel.
 - m. Overall description of smoke control system based on Smoke Control Report, developed by others.
 - n. Smoke control operation matrix by individual initiating device for fan and damper control/monitoring as well as ancillary equipment controlled.
 - o. Elevation indicating mounting heights for manual pull stations, audible and visual devices and combination audible/visual devices.
 - p. Rated penetration details.
 - q. Typical wiring diagram details of field devices.
 - r. Detector mounting details at HVAC ducts.
 - s. Battery standby calculations showing total standby power needed to meet the specified system requirements.
 - t. Voltage drop calculations for system wiring circuits.
6. Furnish structural calculations for equipment anchorage as required for the installation of fire alarm panels:
 7. Submit Manufacturer's installation instructions.
 8. Complete bill of materials listing all components.
 9. Provide California State Fire Marshal 'CSFM' listing sheet for each device.

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10. Warranty.

- B. Contractor shall submit approved Shop Drawings for review by State/Local Fire Marshal prior to the purchase and installation of equipment. Provide quantities of Drawing sets as required by jurisdiction. Drawings shall be wet stamped and signed by a registered professional Engineer.
- C. Record Drawings:
 - 1. Furnish Record Drawings utilizing Shop Drawing submissions with updated field conditions. These Drawings shall include but not be limited to the following:
 - a. Plot plans and building floor plans, showing point-to-point wiring location of and conduit routing to all devices.
 - b. Block diagram/riser diagram showing the LSCP, system components and all conduit and wire type/sizes between each.
 - 2. Drawings shall be incorporated into the Record Drawing submission.
 - 3. Final acceptance will not be made until the Engineer has approved the Record Drawings.

1.06 OPERATION AND MAINTENANCE MANUAL

- A. Supply operation and maintenance manuals to include the following:
 - 1. A detailed explanation of the operation of the system.
 - 2. Instructions for routine maintenance.
 - 3. Pictorial parts list and part numbers.
 - 4. Schematic Drawings of wiring system, including all initiation and annunciation devices, control panel, annunciators, communication system, fan control system, printer/terminal, etc.
 - 5. Telephone numbers for the authorized parts and service distributors.

1.07 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery: Fire alarm/life safety system components shall not be delivered to the Project site until protected storage space is available. Storage outdoors covered by rainproof material is not acceptable. Equipment damaged during shipment shall be replaced and returned to Manufacturer at no cost to Owner.
- B. Storage: Store in a clean, dry, ventilated space free from temperature extremes. Maintain factory wrapping or provide a heavy canvas/plastic cover to protect units from dirt, water, construction debris and traffic. Provide heat where required to prevent condensation.
- C. Handling: Handle in accordance with Manufacturer's written instructions. Be careful to prevent internal component damage, breakage, denting and scoring. Damaged units shall not be installed. Replace damaged units and return equipment to Manufacturer.

1.09 WARRANTY

FIRE ALARM/LIFE SAFETY SYSTEM

- A. Units and components offered under this Section shall be covered by a 1 year parts and labor warranty for malfunctions resulting from defects in materials and workmanship. Warranty shall begin upon acceptance by the Owner.
- B. The warranty package shall include, but not be limited to the following:
 - 1. Emergency maintenance service.
 - 2. Service by factory trained service representative of system Manufacturer.
 - 3. Replacement of any defective components.

1.10 SYSTEM START-UP

- A. Upon completion of installation, a factory trained dealer service representative shall perform initial start-up of the fire alarm/life safety system. Sufficient time shall be allowed to properly check the system out and perform required minor adjustments before the Engineer's witnessed test shall begin.

1.11 MAINTENANCE

- A. Extra Material:
 - 1. Provide the following fire alarm system components as extra materials, matching the products installed and packaged for storing.
 - a. Manual pull station: Furnish a quantity equal to 10 percent of the number installed.
 - b. Detectors: Furnish a quantity equal to 10 percent, for each type, of the number installed.
 - c. Strobes and Speaker/strobes: Furnish a quantity equal to 10 percent of the number installed.
 - d. Speakers: Furnish a quantity equal to 10 percent of the number installed.
- B. Maintenance Service:
 - 1. For a period of one year following acceptance the equipment Supplier shall have a person(s) familiar with this Project attend four quarterly meetings with the Owner's Representative to review system performance, operation and any system problems. That person shall provide a written summary of the items discussed in each meeting and a schedule of when the system problems will be corrected. The report is due within 7 working days after each meeting.
 - 2. During the eleventh month following system acceptance, on a weekend day, the equipment Supplier shall perform a complete test of the system, in a manner similar to the acceptance test. A written report shall be submitted to the Owner certifying that each initiating device has been tested. A copy of these test forms shall be submitted to the Engineer for review and acceptance.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products furnished by the following Manufacturer shall be provided per the districts standards.
 - 1. Gamewell/FCI.
- B. Substitutions: Substitutions will not be accepted.

FIRE ALARM/LIFE SAFETY SYSTEM

2.02 FIRE ALARM AND DETECTION SYSTEM

A. Control panel:

1. The panel shall comply with applicable requirements of UL864 and shall provide power, annunciation, supervision and control for the complete fire alarm system. The panel shall be modular in construction, installed in a surface mounted steel cabinet with hinged door and cylinder lock, containing all modules necessary to operate as indicated herein.
2. Addressable devices shall be individually identified by the system and any quantity of addressable devices may be in alarm at any time up to the total number connected to the system.
3. The panel annunciator shall be a minimum of an 80 character alphanumeric display, which shall provide a user definable custom message associated with each detection device or zone.
4. Dynamic supervision of system electronics, wiring, initiating devices and software shall be provided by the control system. Failure of system hardware or wiring shall be indicated by type and location on the alphanumeric annunciator. Software and processor operation shall be monitored by a independent hardware watchdog, which will indicate their failure. The panel shall provide failsafe operation, i.e. all incoming alarms shall override all other modes of operation.
5. Provide a service mode to permit the arming and disarming of individual initiating or output devices as well as manually operating output devices. Status of these devices shall be displayed upon command from the control panel. The panel shall automatically return to the normal mode in the event the panel remains unattended in the service mode.
6. The panel shall be capable of measuring and adjusting the sensitivity of addressable detectors upon request. An alphanumeric display shall be provided to display custom messages and give readings of detector sensitivity detector by detector. Each device on an addressable initiating circuit shall be checked continuously to include the following:
 - a. Sensitivity.
 - b. Response.
 - c. Opens.
 - d. Shorts.
 - e. Ground faults.
 - f. Functionality.
 - g. Status.
7. The panel shall monitor the addressable smoke detectors in such a manner that if the detectors become dirty and reach and maintain 80% of alarm threshold for five (5) consecutive hours, a trouble condition indicating exactly which device needs service shall be automatically annunciated. If the device becomes too insensitive for a period of 10 seconds, the trouble indication will read: "Input device response too low."
8. The panel shall report, by specific device number, any device removed from an addressable initiating circuit and all other devices shall continue to function.
9. The panel shall automatically indicate the total quantity of alarms and troubles that have occurred prior to reset at the control unit.

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10. No alarm or trouble indication shall be resettable until it has been acknowledged. It shall not be possible to reset the system until all alarms have been acknowledged.
 11. The panel shall be capable of:
 - a. Counting the number of addressable devices within a designated area or "zone" which are in alarm.
 - b. Counting "zones" which are in alarm.
 - c. Counting the number of addressable devices which are in alarm on the system.
 - d. Differentiating among types of addressable devices such as smoke detectors, manual stations, water-flow switches and heat detectors.
 - e. Assigning priorities to types of devices, zones or groups of devices.
 - f. Cross-Zoning.
 12. Each addressable device shall report its condition to the panel control unit every three (3) seconds in a manner such that failure of the connections to or internal electronics of the device will result in a trouble signal that identifies the specific device involved.
 13. The panel shall also be capable of operating non-addressable Class A or B initiating circuits.
 14. Alarm and trouble from non-addressable initiating circuits (zones) shall be annunciated and cause output functions in the same manner as addressable detection devices including a location message for each zone.
 15. Panel output circuits shall be supervised and capable of providing 1.5 amp at 24 VDC.
 16. Provision for programmable control relays in panel shall be included having dry contacts rated 120 VAC, 5 amp, inductive.
 17. Programmable remote relays shall be controlled in the same manner as panel mounted relays.
- B. Initiation/notification modules:
1. All modules shall be plug-in, dynamically supervised and easily replaceable. Field wiring shall be connected to the panel with removable multi-conductor connectors to facilitate rapid removal and replacement of both the module and wiring for ease of serving the panel. The modules shall be system interconnected by a card edge connector.
 2. Provide zone input addressable modules for monitoring non-addressable initiating circuits.
 3. Provide programmable signal modules on output circuits for operation of DC audible devices.
 4. Provide, as needed, programmable supplementary relay modules containing four independent relays fitted with form "C" contacts, rated at 120 VAC, 5 amps inductive.
- C. Printer/terminal:
1. The control panel shall support one printer/terminal. This terminal shall be used for permanent records of the Control Panel status and detector chamber voltages and shall also be capable of system control as configured. The printer/terminal shall interface to the control panel via a 20ma supervised serial loop shielded cable.

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2. The printer (and the terminal) shall be capable of listing, upon request, all functions indicated at panel digital annunciator.
- D. Power supply: Emergency generator feed adequate to serve panel modules, initiating devices, annunciating devices, remote annunciators, door hold-open/closure devices, roll-down fire doors or shutters, fire/smoke dampers. All power connections whether AC or DC shall be separately fused within panel.
- E. Uninterruptible power supply (batteries):
1. Provide an uninterruptible power source for all volatile system components including control panel, peripherals and remote annunciators. Power source shall consist of but not be limited to all necessary conduit, wire, outlets, transformers, panels and connections to each piece of equipment as required.
 2. Uninterruptible power shall be required such that loss of power shall not cause the system operator to be required to restart the system or any part thereof upon return of power. The uninterruptible power supply shall be NFPA approved for applications and shall provide a 24 hour backup of the system; and then, at the end of that period, operate all alarm indicating devices used for evacuation for 30 minutes.
 3. Provide a dual rate battery charger capable of recharging batteries to 80% capacity in 8 hours.
- F. Remote station signal transmitter: Electrically supervise, capable of transmitting alarm and trouble signals over telephone lines to remote monitoring station receiver.
- G. Auxiliary relays: Provide sufficient SPDT auxiliary relay contacts for each initiating device zone to provide accessory functions specified.

2.03 ADDRESSABLE INITIATING DEVICES

- A. Manual pull stations: Shall conform to the applicable requirements of UL 38. Addressable manual stations shall be connected into addressable initiating circuits. Stations shall be dual action type. Stations shall be finished in red, with raised letter operating instructions of contrasting color. Control panel shall monitor the station by address and function. The use of a key or wrench shall be required to reset the station. Stations shall have a separate screw terminal for each conductor and be capable of field programming for its "address" location on a initiating circuit.
- B. Heat detectors: Shall conform to the applicable requirements of UL 521. Addressable detectors shall be electronic designed for detection of fire by combination fixed temperature and rate-of-rise principle. Detectors shall be connected into addressable initiating circuits. All electronics shall be contained within detector head and shall plug-in to terminal base. Detector shall be field programmable and contain external indication that is readily visible. The detector shall be dynamically supervised and individually identified by LSCP, as well as sensitivity adjustable. Rating for fixed temperature portion shall be 135 degrees F. Detectors shall have screw terminals in base for making all wiring connection.
- C. Smoke detectors: Shall conform to the applicable requirements of UL 268:
1. Photoelectric detectors: Addressable detectors shall be electronic designed for detection of abnormal smoke densities. Detectors shall consist of separate transmitter and receiver units. The transmitter unit shall emit an infrared beam to the receiver unit. When the signal at the receiver falls below a preset sensitivity, the detector shall initiate an alarm. The receiver shall contain an LED that is powered upon an alarm condition. Long-term changes to the received signal caused by environmental variations shall be automatically

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compensated. Detectors shall be connected into addressable initiating circuits. All electronics shall be contained within detector head and shall plug-in to terminal base. Detectors shall be field programmable and contain external indication that is readily visible. The detector shall be dynamically supervised and individually identified by LSCP, as well as sensitivity adjustable. Detectors shall have multiple sensitivity settings in order to meet UL listings for the different distances covered by the beam. Detectors shall have screw terminals in base for making all wiring connections.

2. Duct smoke detectors: Addressable detector shall have a duct housing, mounted exterior to the duct and with perforated sampling tubes. Activation of a detector shall cause shutdown of the associated air-handling unit via auxiliary contact base. Detectors shall be rated for the air velocity to be expected.
 3. In-duct smoke detector: Addressable detector shall have external mounted box with relay output, remote test station with LED status indicator and keyed test switch and sensor head mounted within duct. Activation of detector shall cause associated fire/smoke damper to close via auxiliary relay base.
- D. Interface modules: Addressable interface module shall be connected into addressable initiating circuits. This device shall be used for interfacing normally open or normally closed direct shorting contact devices to an addressable initiating circuit (i.e. waterflow, tamper switches, non-addressable initiating devices, etc.). Module shall be dynamically supervised and individually identified by LSCP.
- E. Programmable relay modules: Addressable interface module containing a programmable control relay with contacts rated at 2.0 amps at 30VDC, 0.6 amps at 120 VAC.

2.04 NOTIFICATION DEVICES

- A. Speakers, strobes and combination speaker strobes:
1. These units shall be mounted flush in all finished areas and surface mounted in unfinished equipment areas. White enamel grill for units mounted in finished (public) areas; red for units mounted in unfinished (mechanical) areas.
 2. Maximum loading: The loading on both the strobe and audio circuits shall not exceed 75% of its rated capacity. Verify that strobe in-rush currents are safely within the maximum rated capacity of the circuit.
 3. Speaker: Wall or ceiling mounted units shall include a blocking capacitor for line supervision and screw terminals for in and out wiring. The back of the speaker cone shall be covered to protect the cone from damage and dust. The speakers shall operate over a frequency range of 400 - 4000Hz and shall have field selectable power taps of 1/8 to 8 watts with sound output up to 92dBA at 10 feet measured per UL standard 1480 when set on the 8 watt tap. Speaker shall be rated for operation on a 70.7-volt audio system.
 4. Strobe: Wall mounted units shall incorporate 15, 30, 75, 110 candela strobe lights that flash once per second with 24 VDC input with a maximum current draw of .088 amps.
 5. Strobe/speaker: Wall mounted units with speaker Specifications listed above and shall incorporate 15, 30, 75, 110 candela strobe lights that flash once per second with 24 VDC input with a maximum current draw of .088 amps.
 6. Remote power supplies for strobe circuits:
 - a. Provide quantity of remote power supplies required for system. Power supplies shall be mounted in hinged NEMA 1 enclosures, maximum 24" wide, with locking handle and the following items:

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- 1) Back-up emergency batteries, sized per NFPA standards. Provide separate enclosure for batteries if required to prevent damage from corrosive gases.
 - 2) Provide a automatic dual rate (high rate and float charge) battery charger capable of recharging batteries to 80% capacity in 8 hours. The charger output shall be supervised and fused.
 - 3) Supervised programmable relays or network interface module to control strobe lights on a floor-by-floor basis.
- b. Power supplies shall be connected to emergency power 120 VAC circuits.
 - c. If the power supply loses AC power, a system trouble shall occur.
 - d. Locks shall be keyed the same as all other life safety panels.
- B. Bells: Shall be 6 inch10 inch surface mounted with matching mounting back box. Bells shall be of vibrating type, suitable for use in an electrically supervised circuit. Bells shall be the underdome type producing a sound output rating of at least 84 dBA87 dBA at 10 feet. Bells used in exterior locations shall be specifically listed or approved for outdoor use and provided with metal housing and protective grilles.
- C. Fireman's remote LCD annunciator: Shall have a two line by 40-character LCD display. Dedicated LED lamps shall light upon activation of any alarm, supervisory or trouble condition and a tone-alert shall sound. The backlit alphanumeric liquid crystal display (LED) shall indicate type of alarm, number of alarms, supervisory conditions and troubles in the system and a custom location designation. Annunciator shall include control switches for system acknowledgments, alarm silence and system reset. Information is transmitted to the annunciator over a single twisted, shielded pair cable. Annunciator shall be flush mounted in NEMA 13R enclosure for interior applications.
- D. Remote graphic annunciator: Shall have a plan view elevation of each building. A lamp indicated in its relative position in the building shall indicate each zone. Three individual lamps shall be provided for each zone and shall illuminate for an abnormal condition in that zone. Lamps shall be red for alarm condition; blue for supervisory condition and amber for trouble condition. Plan views shall be approximately to scale and in no case smaller than 12 inches15 inches in length or width. Annunciator shall have a door with piano hinge and two point cylinder lock or two cylinder locks. Lock shall be open using the same key as the control panel. A lamp test switch shall be provided. Annunciator shall be flush mounted.
- E. Life safety command center annunciator:
1. Provide a surface mounted panel, sized as required to contain the following features:
 - a. Graphic silk-screened representation of the buildings in vertical cross-section.
 - b. LED indicating lights that shall illuminate the respective floor's LED indicator light for an occurrence in that building:
 - 1) System trouble. Illuminates on any component failure or abnormal condition for both the fire alarm and communication systems. (Yellow LED, only on floors with equipment.)
 - 2) Sprinkler Waterflow. (Blue LED)
 - 3) Smoke Detector. (Red LED)
 - 4) Duct Smoke Detector. (Red LED)
 - 5) Manual Pull Station (Yellow LED)

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- 6) Annunciation Devices Activated. (Green LED)
 - 7) Tamper Valve or PIV. (Blue LED)
 - 8) Fire Pump Running (Yellow LED)
 - 9) Fire Pump Trouble. (Yellow LED)
 - 10) Jockey Pump Running (basement floor only) (Yellow LED)
 - 11) Generator Running (Yellow LED)
 - 12) Generator Trouble (Red LED)
 - 13) Public Emergency Phone Activated. (Yellow LED)
- c. Sonalert Horn.
 - d. Lamp test pushbutton.
 - e. Horn silence pushbutton. This pushbutton shall be momentary type and shall allow a subsequent alarm to ring the horn again. On/off switch is not acceptable.
 - f. Black silk-screened lettering describing the function of each device and light.
 - g. Brush stainless steel faceplate with continuous piano hinge to access wiring compartment and 1/4 turn captive fasteners.
 - h. Annunciator shall be UL and CSFM listed.
2. This annunciator shall annunciate alarm and trouble conditions it shall not contain any control capability over the fire alarm and communication system. All system horn silence and acknowledge shall be performed at the control equipment itself.
 3. All control power shall be battery backed up and originate from the life safety control panel.

2.05 AUXILIARY EQUIPMENT CONTROL AND SUPERVISION

- A. Under this Section, provide connections to the following equipment to activate control sequence of operation:
 1. Fire sprinkler system components: Provide a pair of wires from a remote mounted addressable interface module (2'-6" maximum wire length) for each of the following devices:
 - a. Each waterflow switch to initiate a alarm signal.
 - b. Each valve monitor switch (tamper switch) to initiate a trouble signal.
 - c. Each P.I.V. to initiate a trouble signal.
 - d. Fire pump to initiate a trouble signal for fire pump "running", "loss of power," and "phase reversal."
 2. Door hold-open/closure devices: Provide a pair of wires from a set of dry contacts in the LSCP or remote mounted programmable relays to each door hold-open/closure device for power to and release of doors.
 3. Roll-down fire doors and shutters: Provide a pair of wires from a set of dry contacts in the LSCP or remote mounted programmable relays to each roll-down fire door or shutter for release of door.

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4. Building energy management system (EMS) interface: Provide a pair of wires from a set of dry contacts in LSCP or remote mounted programmable relays to EMS system control panel. Contacts shall be normally closed and shall open upon any alarm condition.
- B. Fire/smoke dampers: Provide the following at FLCP for manual override control and annunciation of each smoke management damper:
1. Three position (open-auto-closed), heavy-duty, industrial grade control switch for damper control as follows:
 - a. The "OPEN" and "CLOSED" modes shall override the normal operation of the HVAC control system.
 - b. The "AUTO" mode shall be used for normal damper operation when not in override mode.
 2. LED indicator lights shall be provided adjacent to each control switch for status annunciation as listed below. Provide wiring and panel or remote mounted interface/relay modules for each damper controlled. "Open" and "Closed" indication shall be via connection to end switches furnished by Division 23.
 - a. Green = "OPEN"
 - b. Yellow = "CLOSED"
 - c. Red = "OVERRIDE" (at LSCP)
 3. Provide graphic quality lettering on engraved nameplate to identify each switch and LED light.

2.06 LIFE SAFETY COMMUNICATIONS AND PUBLIC ADDRESS SYSTEM

- A. System operation:
1. Provide a modular, fully supervised, zone selective voice communication system in the Life Safety Command Center Room. The page alarm system shall be utilized for automatic pre-recorded voice signaling and manual voice override paging.
 2. Output zones shall be as follows:
 - a. One zone for each building.
 - b. All call (includes all zones).
 3. All zone selector switches shall be toggle type with adjacent on/off LED light and clearly identified by floor, elevator or stairwell number.
 4. Manual override via the hand-held microphone shall take priority over any and all alarm signals to assure communication of one-way voice instructions.
 5. "Phone Patch" control shall be provided for the firefighter in control to allow voice instructions to be initiated from any remote fireman's telephone.
- B. Communication amplifiers:
1. The unit shall be solid state complete with microphone and volume control.
 2. The total harmonic distortion shall be less than 2% at 100% of rated output.
 3. Amplification equipment shall be sized to provide sufficient power to drive one speaker per 1,000 square feet of building area on each floor with the speakers set on a wattage tap that allows 15dB above the ambient noise level in all areas of a normal 45dB office

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- environment. Plus an additional 25 percent per amplifier. I.E. provide amplifiers rated for the maximum number of speakers possible in the building plus 25 percent spare capacity.
4. Provide output terminals mounted on a heavy-duty terminal strip for making all required connections.
 5. Outputs shall be compatible with multi-tap speakers as required.
 6. Electronic circuit protection shall be incorporated in the amplifier that provides automatic limiting against short circuits and overloads on its outputs. A thermostatic control shall protect the amplifier from operation at excessive temperatures and a circuit breaker for overcurrent protection shall be provided.
 7. The front panel of the amplifier shall have a power indicator and a thermal overload indicator.
 8. The amplifier shall operate from a 105 - 125 volt 60 Hz power source.
 9. The unit shall be ruggedly constructed, temperature stable and be capable of operating in ambient temperatures ranging from -20 degrees C to +55 degrees C. The power transformers shall be heavy duty, fully enclosed and designed for continuous operation. The chassis shall be heavy-gauge steel with a perforated enclosure and both shall be finished in low luster black enamel.
 10. Provide speaker zone supervision such that any zone in "trouble" shall be annunciated at the remote annunciator and the printer.
 11. The amplifiers shall be mounted in the Life Safety Command Center Room.
 12. Amplifiers shall be provided in 120 or 250-watt RMS increments at 70VRMS output voltage levels. Amplifiers shall be continuously supervised and be configured for single channel operation and redundancy for backup. All amplifiers shall have 60 to 15 KHz frequency response and be equipped with a battery saver feature to minimize supervisory current drain when operating on the 24VDC standby batteries.
 13. Each speaker circuit shall be electrically supervised for opens and ground faults in the wiring and for short circuit faults on the speaker circuit wiring and shall be so arranged that a fault condition in any circuit or groups of circuits will not cause an alarm to be sounded. A short circuit on the speaker circuit wiring will automatically disconnect only the affected circuit thereby insuring the integrity of all other speaker circuits to receive an alarm signal and protect the system amplifiers, pre-amplifiers and taped voice or tone generators. The occurrence of any fault will light a trouble LED and sound the Sonalert but will not interfere with the proper operation of any circuit that does not have a fault condition. Initiating and speaker circuits shall be wired using Class B supervised circuits (a break or ground fault in any conductor will be reported as a trouble condition).
 14. Digital message repeater module (DRM) shall be provided for a pre-recorded general instruction message. The standard operating sequence shall be thirty seconds of alarm tone, followed by a 30 - 60 second digitized general instruction message. After the message is sent or has been interrupted by the hand-held microphone, before the tape message is completed or failure of the MRM, the alarm tone will again sound continuously until the system is reset or the tone silenced. The DRM will be supervised for EPROM memory and general status. Message shall be settable to be continuous repeatable or 1 - 3 times.

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15. Redundant tone generators (RTM) shall be provided for alarm and auxiliary tone generation (slow whoop). RTM's shall be continuously supervised for operation and placement.

C. Remote switch bank and microphone panel:

1. Provide push-to-talk override microphone for life safety paging.
2. A bank of switches shall be provided within reach of the microphone for selective paging of each zone and a complete building page.
3. Provide a means for each toggle switch to accept an identification tag in the faceplate. Provide graphic quality lettering or Kroy lettering on each I.D. tag. Do not hand letter.
4. The microphone and switches shall be mounted in a panel on the wall in the Administration building.

2.07 VOICE COMMUNICATION BACK-UP POWER SUPPLY (BATTERIES)

- A. Provide a back-up power source for all system components including but not limited to, amplifiers, digital message units and microphone circuits. Power source shall consist of but not be limited to all necessary conduit, batteries, wire, outlets, transformers, panels and connections to each piece of equipment as required.
- B. Back-up power shall be required such that loss of utility power shall not cause the system operator to be required to restart the system or any part thereof upon return of power. The back-up power supply shall be NFPA approved for life safety applications and shall provide a 4-hour backup of the maximum load possible on the system as required by NFPA 72.
- C. During power failure the amplifiers shall be automatically shut off to minimize drain on batteries but will turn on automatically during alarm or manual activation.
- D. Provide a automatic dual rate (high rate and float charge) battery charger capable of recharging batteries to 80% capacity in 8 hours. The charger output shall be supervised and fused.
- E. If the system loses AC power, a system trouble shall occur.
- F. A solid-state power transfer circuit that shall switch to standby power automatically and instantaneously if normal power fails or falls below 15% of normal ("brown out" conditions). This electronic circuit shall allow the batteries to be effectively "floated" on the operating system to avoid upsetting the normal microprocessor scan and minimize resultant nuisance troubles and/or alarms.

2.08 LIFE SAFETY COMMAND CENTER

- A. The life safety remote annunciator shall be the operations center for fire fighter's and shall consist of the following:
 1. Public address system and microphone.
 2. Firefighter's and public emergency telephone communication system and remote handset cabinet.
 3. Fire alarm detection and control panel as well as graphic annunciator.
 4. Controls and annunciation for all auxiliary equipment control.
 5. Telephone for fire departments use with access to public telephone system.

2.09 FIBER OPTIC PATCH CORDS

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- A. The fiber nodes shall utilize existing 62.5/125 micron fiber. The existing fiber is terminated with SC fiber connectors
 - 1. Provide SC-ST Duplex fiber jumpers to connect the FACP and Remote nodes TX/RX fiber ports (4 fiber).
 - 2. Provide SC-SC duplex fiber jumpers to patch fiber from one node to the next at the IDF location. Quantity as required.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of fire alarm/life safety system installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 INSTALLATION

A. General:

- 1. Install fire alarm/life safety system in accordance with Manufacturer's written instructions, as indicated on the Drawings and as specified herein.
- 2. The 120/208-volt, 3 wire, 60 cycles AC emergency power supply required to power the system. Connect to red colored circuit breaker(s) in panel board. Identify circuit as "Fire Alarm Circuit Control".

B. Wiring:

- 1. Individual input and output device addressability as well as remote sensitivity measurement, supervision and power shall all be performed on the same pair of wires. Wiring shall be Class B.
- 2. Each Class B initiating circuit shall consist of a two (2)-wire circuit, allowing multiple T-taps and not requiring any end-of-line device for supervision. Each initiating circuit shall accommodate up to thirty (30) addressable programmable initiating devices. On the initial installation, only 21 devices are to be allowed per circuit to allow for future expansion.
- 3. Wiring for shielding certain conductors from others or routing in separate raceways, shall be as recommended by the Manufacturer's current requirements.
- 4. All cabling when concealed above accessible ceiling can be routed free air and supported every 48" in J-Hooks. J-hooks shall be sized for a maximum 40% fill and shall be color coded red, and not used for any other cable.
- 5. J-hooks shall be supported by independent 12 gauge steel wire or directly to building structure. Support to other disciplines support structure such as electrical conduit, mechanical ducting, ceiling wire, ATR, unistrut etc... will not be accepted and will require the contractor to install an independent support system.
- 6. All wiring shall be installed in a steel conduit when in exposed areas, and through walls and shall be of the size recommended by the equipment Supplier. Wire color-coding shall remain the same throughout the system.
- 7. No wiring other than that directly associated with life safety/fire alarm detection, alarms or auxiliary fire protection functions (no 120 VAC), shall be permitted in life safety/fire alarm support systems and pathways.

FIRE ALARM/LIFE SAFETY SYSTEM

8. Make conduit and wiring connections to sprinkler flow switches, PIV's, sprinkler valve monitors, door hold-open/closure devices, smoke management fans, smoke dampers, fire pump controller, etc.
9. All wiring shall be checked and tested to ensure that there are no grounds, opens or shorts.
10. All life safety/fire alarm junction boxes shall be color-coded and marked. Wire nut splices are not allowed.
11. Wires shall be numbered at each connection, termination and junction point. Wire numbering tags shall be Brady Perma-Code, Westline or equal wire makers. Each group of wires shall be tagged with its destination at each panel, terminal box or junction box.
12. All wire used on the life safety/fire alarm and communication system shall have a minimum insulation rating of 105 degrees C. Bell wire or thermostat wire is not acceptable.

3.03 FIELD QUALITY CONTROL

- A. Manufacturer's field service: Contractor shall arrange and pay for the services of a factory-authorized service representative to supervise the initial start-up, pretesting and adjustment of the fire alarm/life safety system.
- B. Independent testing: Contractor shall arrange and pay for the services of an independent Testing Agency to perform all quality control electrical testing, calibration and inspection required herein. Testing Agencies objectives shall be to:
 1. Assure fire alarm/life safety system installation conforms to specified requirements and operates within specified tolerances.
 2. Field test and inspect to ensure operation in accordance with Manufacturer's recommendations and Specifications.
 3. Prepare final test report including results, observations, failures, adjustments and remedies.
 4. Apply label on fire alarm/life safety system control panel upon satisfactory completion of tests and results.
 5. Verify settings and make final adjustments.
- C. At least three weeks prior to any testing, notify the Engineer so that arrangement can be made for witnessing test, if deemed necessary. All pretesting shall have been tested satisfactorily prior to the Engineer's witnessed test.
- D. Prefunctional testing:
 1. Provide Testing Agency with Contract Documents and Manufacturer instructions for installation and testing.
 2. Visual and mechanical inspection:
 - a. Inspect for physical damage, defects alignment and fit.
 - b. Perform mechanical operational tests in accordance with Manufacturer's instructions.
 - c. Compare nameplate information and connections to Contract Documents.
 - d. Check tightness of all control and power connections.
 - e. Check that all covers, barriers and doors are secure.

FIRE ALARM/LIFE SAFETY SYSTEM

3. Electrical tests:
 - a. The system shall be completely tested prior to final acceptance testing. All points shall be tested from point of initiation to the final point or points of annunciation. All circuits shall be tested for continuity and ability to transmit the required signal correctly to the LSCP. Any problem due to wrong wire type, wire twist, impedance, mismatches, noise filtering or shielding shall be completely corrected during pretesting and prior to any final acceptance tests.
 - b. Testing shall include each and every device in the system. Coordinate with other trades as necessary for testing.
 - 1) Sprinkler flow switches: Record time delay from water flow to alarm and adjust as necessary for a 30-50 second delay.
 - 2) Tamper switches: Verify "trouble" signal is received and alarmed on closing of each valve.
 - 3) Smoke detectors and duct smoke detectors: Test with actual or approved artificial smoke. Verify that reset does not occur when devices are cleared of smoke. Verify supervisory circuit function. Perform pressure differential test on all duct-mounted smoke detectors.
 - 4) Door release: Verify that proper alarm activates every held-open door, roll-down doors and shutters, to ensure doors close completely to the closed position.
 - 5) Elevator recall: Verify that elevators recall to designated floor by testing elevator lobby detectors with smoke. This is necessary on the ground floor and one other only.
 - 6) Firefighter's phone: Verify that each phone jack and supervisory circuit is fully operational and annunciates properly at the paging panel in the Life Safety Command Center Room.
 - 7) Public emergency phone: Verify that each phone is operative and annunciates properly at the paging panel at the remote annunciator panels.
 - 8) Voice communication systems: Verify that each building and/or floor can be selected.
 - 9) Tone and prerecorded message generation: Activate by means of an alarm initiating device on each floor and verify that they are clearly audible in all occupied spaces including elevator lobbies, toilets, core areas, stairwells, mechanical rooms and garage. Adjust power taps at speakers to obtain proper +15 dBA level above ambient noise. Verify the override capability of the microphone paging system.
 - 10) FFCP: Verify correct fan and damper control and status annunciation for each life safety fan and damper.
 - 11) Central station notification: Verify that one set of conductors in the terminal cabinet becomes a short circuit on any "trouble" condition and that the other set becomes a short circuit on any "alarm" condition. Verify that the conductor groups are labeled properly.
 - 12) Printer and remote annunciators: Verify that all alarm and trouble conditions print on the printer and annunciate at the remote annunciation panels.

FIRE ALARM/LIFE SAFETY SYSTEM

13) Emergency generator power, fire pump and jockey pump status: Verify these annunciate their respective "Trouble" and "Running" conditions.

c. Test Report:

- 1) Provide a complete report listing every device, the date it was tested, the results and the date retested (if failure occurred during the previous test). The test report shall indicate that every device tested successfully.
- 2) Submit two typed copies of the test report on 8- 1/2" x 11" paper in a neatly bound folder to the Engineer for approval. Failure to comply with this will result in a delay of final testing and acceptance.

E. Functional performance testing:

1. After the approval of the test report, provide a schedule of final testing to be done in the presence of the Fire Marshal and Owner's Representative. The schedule must be received by the Engineer a minimum of 2 weeks prior to the Final Test Date and must list the dates and time slots in which the various systems can be tested.
 2. Coordination of the Final Test dates with all parties (General Contractor, Mechanical Contractor, Electrical Contractor, Owner and others) shall be the sole responsibility of the Contractor. If a party is required to be present during any phase of testing to activate a device, ensure that the party or a qualified representative of the party is present throughout that phase of the testing.
- F. In the event that the system fails to function properly during the testing as a result of inadequate pretesting or preparation. The Contractor shall bear all costs incurred by the necessity for retesting including test equipment, transportation, subsistence and the Engineer's hourly rate.
- G. Contractor shall replace at no costs to the Owner all devices which are found defective or do not operate within factory specified tolerances.
- H. Contractor shall submit the Testing Agency's final report to the Engineer for review prior to Project closeout and final acceptance by the Owner. Test report shall indicate test dates, devices tested, results, observation, deficiencies and remedies. Test report shall be included in the operation and maintenance manuals.

3.04 TRAINING

- A. Factory authorized service representative shall conduct a 4 hour training seminar for Owner's Representatives upon completion and acceptance of system. Instructions shall include safe operation, maintenance and testing of equipment with both classroom training and hands-on instruction.
- B. Contractor shall schedule training with a minimum of 7 days advance notice.

END OF SECTION

**Nevada Union High
School District
Bear River High School**

**Fire Alarm Cut Sheets
and
CSFM Listing Sheets**

September 28, 2017

Submitted by:
The Engineering Enterprise





by Honeywell

E3 Series® Control Panel

Description

The E3 Series® Expandable Emergency Evacuation System by Gamewell-FCI is in the forefront of the latest generation of fire alarm control panels. Employing the new high-speed Velociti® sensors, the E3 Series provides previously unattainable polling speed and response together with the flexibility demanded by today's emergency evacuation systems. In addition to their high-speed polling rate, the Velociti Series of sensors feature bi-polar LEDs that flash green for normal polling, and light red steadily to indicate an alarm.

The E3 Series is equipped with an 80-character LCD-E3 alphanumeric LCD display that allows 40 characters to be user-defined for custom installations. Up to six keyboard LCD displays may also be remotely located. In addition, you can install five of the familiar LCD-7100/RAN-7100 remote displays. The displays show instant system status information and can be connected in any desired area of an installation.

A high-speed 32-bit processor easily tackles a wide array of applications from small office buildings to multi-complex, high-rise installations.

The 64 node networking is made possible by 625K baud/ARCNET communications using twisted-pair copper cable, fiber-optic cable, or a combination of both. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes.

The basic E3 Series is equipped with an ILI-MB-E3/ILI95-MB-E3 Intelligent Loop Interface-Main Board, ILI-S-E3/ILI95-S-E3 Intelligent Loop Interface Expansion Board, ANX, and ASM-16 Addressable Switch Module that features 16 software programmable switches, each accompanied by red, green and yellow LEDs that can be programmed to indicate operation of the switches. Additional ASM-16 modules may be added to expand the operation to a plateau previously unimagined.

The Intelligent Loop Interface - Expansion Board (ILI-S-E3/ILI95-S-E3) provides the E3 Series control panel with two additional electrically isolated signaling line circuits. The layout is similar to the ILI-MB-E3/ILI95-MB-E3 with the exception that a number of components are omitted. It occupies one node on the Broadband network.

E3 Series® and Velociti® are registered trademarks of Honeywell International Inc.

UL® is a registered trademark of Underwriters Laboratories Inc.

Expandable Emergency Evacuation System



E3 Series

Features

- IBC Seismic Certified.
- Listed under UL® Standard 864, 9th Edition.
- UL Listed for smoke control (dedicated and non-dedicated) when properly configured.
- FM/UL Listed for Pre-action/Deluge use.
- Styles 4, 6, or 7* signaling line circuits.
- Two to 244 SLCs each supporting 159 sensors, 159 modules and 159 addressable sounder bases.
- 625K baud ARCNET communications using wire, fiber, or mixed configurations for installation flexibility.
- High-speed 32 bit processor and 8100 event history log.
- Advanced Boolean logic-based programming such as AND, OR, NOT, time delay and calendar functions configurable via computer programming.
- Supports up to (16), ASM-16 addressable switch or ANU-48 LED driver modules per ILI-MB-E3/ILI95-MB-E3.
- Two Class A, Style Z or Class B, Style Y, notification appliance circuits rated at 2.0 amps. per circuit.
- Integral city connection.
- Flexible 115,200 baud high speed RS-232 interface.
- 40 character user-defined text per device.
- 15 LCD-SLP displays/annunciators, 6 LCD-E3 displays/annunciators, 5 LCD-7100/RAN-7100 remote LED annunciators per ILI-MB-E3/ILI95-MB-E3.

*Style 7 wiring requires the use of System Sensor M500X Isolator Modules.

SIGNALING



LISTED S1869



APPROVED 3025415

ME A Approved

FDNY #: 6175



City of Chicago Approved

Class1 Class2 High Rise

City of Denver Approved



THE VME GROUP Reference Certificate of Compliance VMA-45894-02C (Revision 1)



GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

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Description (Continued)

Each ILI-MB-E3/ILI95-MB-E3 can support as many as sixteen ANU-48 LED Driver modules supporting hundreds of LEDs on a 3rd party graphic annunciator for remote annunciation. The ANU-48 modules may be installed in any Listed remote annunciator. It can be remotely located via an RS-485 serial interface.

An array of cabinets allows for neat, compact, attractive installations.

Installation

The E3 Series expandable emergency evacuation system offers four cabinet size options. A typical cabinet includes a backbox, an inner door, and an outer door. The E3 Series cabinet assembly is a compact 19 3/8" (49 cm) wide wall-mounted enclosure.

Cabinet A includes the following four options:

- Cabinet A1 inner door mounted to the backbox. The backbox houses one NGA module.
- Cabinet A2 inner door mounted to the backbox. The backbox houses one LCD-E3 module.
- Two or three-bay inner door mounted to the backbox. The backbox typically houses one LCD-E3, or one NGA, and one or two ASM-16 modules.

Cabinet B contains a space for the ILI-MB-E3/ILI95-MB-E3, PM-9/PM-9G modules and batteries set inside the backbox. Additional module options mounted on the backbox include the DACT-E3, and RPT-E3 or ILI-S-E3/ILI95-S-E3/ANX. The 2-bay inner door houses one LCD-E3 module and one ASM-16 module.

Both Cabinets C and D include the following:

- Pre-assembled outer door that gives visibility to the fire fighter's phone handset and a microphone voice messaging system.
- Two inner door panel selections that may contain optional modules to meet the facility operation requirements.

In the Cabinet B, C and D backboxes, the ANX appears in the same place as the ILI-MB-E3/ILI95-MB-E3 and PM-9/PM-9G. For information on the installation instructions for any of the E3 Series cabinets, refer to the E3 Series® Expandable Emergency Evacuation Installation/Operating Manual Part Number: 9000-0574.

Specifications

- Operating Voltage:** 24 VDC
Operating Temperature: Not to exceed the range of 32° to 120° F (0 to 49° C)
Relative Humidity: Not to exceed 93% non-condensing at 90° F (32° C)

Features (Continued)

Velociti® Intelligent Sensor Features:

- Poll 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- LED's blink associated device address during Walk Test.
- Fully digital, hi-precision protocol.
- Up to 9 levels of sensitivity adjustment.
- Pre-Alarm adjustable between 15 levels for both Alert and Action.
- Day/night automatic sensing adjustment.
- Sensitivity windows:
 - Ion .05 to 2% obscuration.
 - Photo 1 to 3% obscuration.
 - Laser .02 to 2% obscuration.
 - MCS Acclimate2F .5 to 4%, also self-adjustable options 1 to 2%, 2 to 3%, and 3 to 4%.
 - HARSH 1 to 3% obscuration.
- Drift compensation.
- Each Loop Card has its own integral processor providing maximum survivability on loss of any other component. SLC provides full response on loss of any other system processor.
- Optional programmable switches can be configured to enable, disable or group any combination of output devices.
- Integrated point or Grouped Cross Zoning allows for numerous devices installed at any location to cooperate and determine alarm condition.
- Automatic detector sensitivity testing.
- DIRTY and VERY DIRTY detector maintenance alerts.

Ordering Information

Part Number	Description
ILI-MB-E3	Intelligent Loop Interface-Main Board
ILI95-MB-E3	Intelligent Loop Interface-Main Board
ILI-S-E3	Intelligent Loop Interface-Expansion Board
ILI95-S-E3	Intelligent Loop Interface-Expansion Board
ANX-SR	Addressable Node Expander-Single Ring
ANX-MR-FO	Addressable Node Expander-Multi-Ring Fiber Optic
ANX-MR-UTP	Addressable Node Expander-Multi-Ring Twisted-pair
LCD-E3	LCD-E3, LCD Keypad Display
RPT-E3-FO	Network Repeater (fiber and twisted-pair)
RPT-E3-UTP	Network Repeater (twisted-pair only)
DACT-E3	Digital Alarm Communicator Transmitter
ANU-48	ANU-48 LED Driver Module
ASM-16	Addressable Switch Module
NGA	LCD Network Graphic Annunciator
PM-9	Power Supply Module
PM-9G	Power Supply Module
LCD-7100	Remote LCD Display
RAN-7100	Remote LCD Display

For additional information on the cabinets, refer to the E3 Series Cabinets data sheet (Part Number: 9020-0649).

Seismic Battery Bracket Kits

For information on the types of Seismic Battery Bracket Kits that are available, the Seismic Battery Bracket Kit Part Numbers and the installation instructions, refer to the following documents:

- Seismic Battery Bracket Installation Guide, P/N: 53839
- E3 Series Cabinets Data Sheet, P/N: 9020-0649

GAMEWELL-FCI



by Honeywell

E3 Series[®] Cabinets

Description

The E3 Series[®] Expandable Emergency Evacuation System by Gamewell-FCI offers several cabinet size options. These cabinet options allow for neat, sturdy, attractive installations. The E3 Series cabinet assembly is a compact, wall-mounted enclosure. A typical cabinet includes a backbox and an outer locking door. In addition, there are several inner door choices and mounting plates to accommodate a variety of E3 sub-assemblies.

Each cabinet backbox includes mounting patterns for plates to aid the installer in arranging and securing the sub-assemblies to the backbox. Backbox knockouts are also positioned at numerous points to allow a conduit access into the enclosure.

The following four Annunciator cabinet sizes provide the maximum flexibility that can meet any application.

- Cabinet AA offers 2 slot or 3 slot options to accommodate any of the following configurations:
 - Inner door, 2 slots allows space for one LCD-E3 or LCD-SLP and one ASM-16.
 - Inner door, 3 slots allows space for any combination of three modules: ASM-16, NGA or an ANU-48.
- Cabinet A1 houses one NGA or one ASM-16/ANU-48.
- Cabinet A2 accommodates a single LCD-E3.
- E3BB-FLUSH-LCD or E3BB-NGA-FLUSH.

E3BB-R-BSlim or B-Slim contains the 600 Series cabinet.

Cabinet B includes a mounting plate that contains a space for the ILI-MB-E3/ILI95-MB-E3, PM-9/PM-9G sub-assemblies and batteries set inside the backbox. Additional sub-assembly options mounted on the backbox include the DACT-E3 and RPT-E3. The 2 slot inner door houses the following options:

- one LCD-E3 module and
- either one ASM-16/ANU-48 or one NGA module

Both C and D size Command Center cabinets house a variety of E3 Broadband sub-assemblies in multiple configurations that provide a solution to a wide range of applications.

Two flexible inner door panel selections are available for C and D size Command Center cabinets that may contain a fire fighter's phone handset, a microphone, and optional modules to meet the facility operation requirements.

(*Note: See Inner Door and Backbox Mounting Capacities on page 3 and 4).

Cabinets for the E3 Series[®]



E3 Series[®] Cabinets

Features

- IBC Seismic Certified.
- 16-gauge steel backbox.
- Removable outer and inner doors.
- Inner door bonding strap used to provide electrical continuity for grounding.
- Backbox and door ground studs provide positive grounding. 180° opening door with full clearance.
- Available in either black or red.
- Lexan[®] windows appear on the doors of most cabinets, except the Cabinet "C" and "D" INX cabinets and the INX CAB-B cabinet which contain louvered doors.
- 90° opening door with zero clearance.
- Keylock with quarter turn latch.
- Trim Ring accessories available.

E3 Series[®] and FocalPoint[®] are a registered trademark of Honeywell International Inc.
Lexan[®] is a registered trademark of GE Plastics, a subsidiary of General Electric Company.

SIGNALING



MEA
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FDNY: 7165-1703:0125
COA#-6077



City of
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GAMEWELL-FCI

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Ordering Information

Part Number Description

Cabinet "AA" Size

Dimensions: 19 1/4" W x 10" H x 4 1/4" D
(49 W x 25 H x 11.4 D cm)

E3BB-BAA	Enclosure, Black, "AA" (LOC) Size
E3BB-RAA	Enclosure, Red, "AA" (LOC) Size
E31D2-TA	Inner Door, 2 Slots, (INCC-TEL & ASM-16)
E31D2-A	Inner Door, 2 Slots, (LCD-E3 or LCD-SLP & ASM-16)
E31D3-A	Inner Door, 3 Slots, (NGA, ASM-16 and MIC)

Cabinet "A1" Size:

Dimensions: 8 3/4" W x 10" H x 4 1/2" D
(22 W x 25 H x 11.4 D cm)

E3BB-BAA1	Remote Enclosure, Black, w/Inner Door, 1 Slot, (NGA)
E3BB-RAA1	Remote Enclosure, Red, w/Inner Door, 1 Slot, (NGA)

Cabinet "A2" Size:

Dimensions: 13 1/4" W x 10" H x 3 1/2" D
(40 W x 25 H x 9 D cm)

E3BB-BA2	Remote Enclosure, Black, w/Inner Door, 1 Slot, (LCD-E3 or LCD-SLP)
E3BB-RA2	Remote Enclosure, Red, w/Inner Door, 1 Slot, (LCD-E3 or LCD-SLP)

Flush Cabinet A1 Annunciators:

E3BB-FLUSH-LCD	CAB A2 Remote Flush LCD ANN with Keyswitch operation
E3BB-NGA-FLUSH	CAB A2 Remote Flush NGA ANN with Password protected

Cabinet "B-Slim" Size: (Retrofit Kits)

Dimensions: 14" W x 20" H x 4 1/2" D
(35.5 W x 50.8 H x 11 D cm)

E3BB-RBSLIM	Assy, Enclosure, B-SLIM, Red with Backplate and LCD-E3 Keyswitch plate.
IF600-RETROFIT	Door and Cab mounting plates, disable key switch and door lock (PK-625) for E3 Series upgrade.

Cabinet "B" Size:

Dimensions: 19 3/8" W x 19 3/8" H x 4 1/2" D
(49 W x 49 H x 11 D cm)

E3BB-BB	Assy, Backbox Enclosure, Black, "B" Size
E3BB-RB	Assy, Backbox Enclosure, Red, "B" Size
E31D2-B	Inner Door, 2 Slots, "B" Size
1100-0460	INX-Transponder 19" (cm) Backbox with Door, Black.

Dimensions: 19 3/8" W x 19 3/8" H x 4 1/2" D
(49 W x 49 H x 11.43 D cm)

Cabinet "C" Size:

Dimensions: 19 3/8" W x 30" H x 4 1/2" D
(49 W x 76 H x 11 D cm)

E3BB-BC/INCC	Enclosure, Command Center, Black, "C" Size
E3BB-RC/INCC	Enclosure, Command Center, Red, "C" Size
E31D2-C	Assy, Inner Door, Command Center, 2- Bay "C" Size
E31D3-C	Assy, Inner Door, Command Center, 3-Bay "C" Size
E3BB-BC/INX	Assy, Transponder, Black, "C" Size
E3BB-RC/INX	Assy, Transponder, Red, "C" Size

Ordering Information (Continued)

Part Number Description

Cabinet "C" Size (Continued)

E3-INCC-CPLATE	Command Center module mounting plate, "C" Size
E3-INX-CPLATE	Transponder module mounting plate, "C" Size
E3-ILI-CPLATE	Intelligent loop module mounting plate "C" Size

Cabinet "D" Size:

Dimensions: 19 3/8" W x 41" H x 4 1/2" D
(49 W x 104 H x 11 D cm)

E3BB-BD/INCC	Enclosure, Command Center, Black, "D" Size
E3BB-RD/INCC	Enclosure, Command Center, Red, "D" Size
E31D2-D	Assy, Inner Door, 2-Bay, "D" Size
E31D3-D	Assy, Inner Door, 3-Bay, "D" Size
E3BB-BD/INX	Enclosure, Transponder, Black "D" Size
E3BB-RD/INX	Enclosure, Transponder, Red, "D" Size
E3-INCC-D-PLATE	Command Center module mounting plate, "D" Size
E3-INX-D-PLATE	Transponder module mounting plate, "D" Size

Optional Extender Plates

AM-50 Plate	AM-50 Extender Plate
FPT-GATE-3-EXT	FPT-GATE-3 Extender Plate

Optional Accessories

1100-0450	Command Center, blank plate, single size
E3-BP	Inner door panel, blank, double size
90375	PM-9/PM-9G Adapter Plate Kit, Hardware
E3-TRIMKIT-A	Trim kit for "A"/"AA" size enclosure, black
E3-TRIMKIT-A1	Trim kit for "A1" size enclosure, black
E3-TRIMKIT-A2	Trim kit for "A2" size enclosure, black
E3-TRIMKIT-B	Trim kit for "B" size enclosure, black
E3-TRIMKIT-C	Trim kit for "C" size enclosure, black
E3-TRIMKIT-D	Trim kit for "D" size enclosure, black

Bulk Amplification

Part Number Description

AA-100	100 W Audio Amplifier, @70.7 V _{RMS} with 120 VAC.
AA-120	120 W Audio Amplifier, @25 V _{RMS} with 120 VAC.
ACT-1	Audio coupling transformer, for audio systems w/multiple supplies.
FCI-CHG-120	Battery Charger, 25-120 A/H Gel cell.
FCI-LBB	Battery box, accommodates batteries up to 55 A/H, (Black).

Cabinet C:

FCI-DR-C4B	Large Battery Backbox, Blank door, lock & keys, for backbox accepting 3 chassis, (Black).
FCI-DR-C4BR	Blank door, lock & keys, for backbox accepting 3 chassis, (Red).
SBB-C4	Backbox, 3 chassis, (Black)

Cabinet D:

FCI-DR-D4B	Blank door, lock & keys, for backbox accepting 4 chassis, (Black)
FCI-DR-D4BR	Blank door, lock & keys, for backbox accepting 4 chassis, (Red)
SBB-D4	Backbox, 4 chassis, (Black)

GAMEWELL-FCI

Seismic Battery Bracket Kits

Part Number	Description
90516	7100-Slim 7 A/H Seismic Battery Bracket Kit E3 B-Slim 7 A/H Seismic Battery Bracket Kit
90517	7100-Slim 12 A/H Seismic Battery Bracket Kit E3 B-Slim 12 A/H Seismic Battery Bracket Kit
90518	E3 CAB-B 7 A/H Seismic Battery Bracket Kit E3 CAB-C 7 A/H Seismic Battery Bracket Kit E3 CAB-D 7 A/H Seismic Battery Bracket Kit NetSOLO NS-INX 7 A/H Seismic Battery Bracket Kit NetSOLO 7100 7 A/H Seismic Battery Bracket Kit
90519	E3 CAB-C (INX only) 12 A/H Seismic Battery Bracket Kit E3 CAB-D (INX only) 12 A/H Seismic Battery Bracket Kit NetSOLO NS-INX 12 A/H Seismic Battery Bracket Kit
90520	E3 CAB-B 18 A/H Seismic Battery Bracket Kit E3 CAB-C 18 A/H Seismic Battery Bracket Kit E3 CAB-D 18 A/H Seismic Battery Bracket Kit

Retrofit Kits

For information on the Gamewell and 7200 Retrofit Kits, refer to the following Data Sheets.

9021-60678 Gamewell Retrofit Kits Data Sheet

9021-60733 7200 Retrofit Kits Data Sheet

Specifications

Inner Door Mounting Capacity

Number Components

Cabinet A

E3ID2-A,	Cabinet A, Inner Door, 2 Slots
1	LCD-E3 Display and
1	ASM-16/ANU-48
E3ID2-TA	Assembly, Door, Inner, TEL-E3

E3ID3-A,	Cabinet A, Inner Door, 3 Slots
1	NGA or ASM-16
2	ASM-16s/ANU-48s

Cabinet AA

1	Microphone
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Cabinet A1

E3ID-A1	Cabinet A1, Inner Door, (Included with Box)
1	NGA or ASM-16

Cabinet A2

E3ID-A2	Cabinet A2, Inner Door, (Included with Box)
1	LCD-E3

Cabinet B

E3ID2-B,	Cabinet B, Inner Door, (Included with Box)
1	LCD-E3 Display and one ASM-16/ANU-48
1	NGA and one ASM-16/ANU-48

B-Slim Cabinet

1	LCD-E3 Display and one RPT-E3 or one DACT-E3
1	ILI-MB-E3 or one ILI95-MB-E3
1	PM-9 or one PM-9G

Inner Door Mounting Capacity (Cont'd)

Number Components

Cabinet C

E3ID2-C,	Cabinet C, Inner Door, 2 Slots
1	LCD-E3 Display and
5	Any combination of ASM-16/ANU-48, NGA or Microphone Assemblies
1	Telephone Assembly

E3ID3-C, Cabinet C, Inner Door, 3 Slots

7	Any Combination of ASM-16/ANU-48, NGA, or Microphone Assemblies
1	Telephone Assembly

Cabinet D

E3ID2-D, Cabinet D, Inner Door, 2 Slots

1	LCD-E3 Display
11	Any Combination of ASM-16/ANU-48, or NGA or Microphone and
1	Telephone Assembly

E3ID3-D, Cabinet D, Inner Door, 3 Slots

13	Any Combination of ASM-16/ANU-48, NGA or Microphone Assemblies
1	Telephone Assembly

Backbox Mounting Capacity

Number Components

E3BB-BAA, Enclosure, "AA" (LOC) Size, Black

1	INI-VG Series Voice Gateway
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E3BB-BA, A1 Size Box/Door, Black

1	RPT-E3 Network Repeater
---	-------------------------

E3BB-BB, B Size Box/Door, Black

1	PM-9/PM-9G Power Supply
1	ILI-MB-E3/ILI95-MB-E3 and
1	Additional ILI-MB-E3/ILI95-MB-E3 Loop Interface or ANX or
1	DACT-E3 Digital Communicator and
1	RPT-E3 Network Repeater

INX CAB-B Mounting Plate

1	PM-9 or PM-9G
1	INI-VGX
4	AM-50 Series amplifiers

E3-INCC-C Plate

1	PM-9/PM-9G Power Supply
1	INI-VG Series Voice Gateway
1	ILI-MB-E3/ILI95-MB-E3 Loop Interface and
1	Additional ILI-MB-E3/ILI95-MB-E3/ANX Loop Interface or
1	DACT-E3 Digital Communicator and
1	RPT-E3 Network Repeater
1	Optional AM-50 or FPT-GATE-3 Extender Plate

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9020-0649 Rev. S page 3 of 4

Backbox Mounting Capacity

Number Components

E3-ILI-C Plate

- 1 PM-9/PM-9G Power Supply
- 1 ILI-MB-E3 or ILI95-MB-E3
- 2 Additional ILI-MB-E3/ILI95-MB-E3 or ILI-S-E3 /ILI95-S-E3 or ANX
- 1 DACT-E3
- 1 RPT-E3
- 1 Optional FPT-GATE-3 Extender Plate

E3-INX-C Plate

- 1 PM-9/PM-9G Power Supply with one PM-9/PM-9G Adapter Plate
- 1 INI-VGX Voice Gateway
- 1 ILI-MB-E3 Loop Interface and
- 1 Additional ILI-MB-E3/ILI95-MB-E3/ANX
- 1 DACT-E3 Digital Communicator and
- 1 RPT-E3 Network Repeater
- 4 AM-50 Series Amplifier
- 1 Optional FPT-GATE-3 Extender Plate

E3-INCC-D Plate

- 1 PM-9/PM-9G Power Supply
- 1 ILI-MB-E3 or ILI95-MB-E3
- 4 Additional ILI-E3 Series or ILI95-E3 Series or ANX
- 1 DACT-E3 Digital Communicator
- 1 RPT-E3 Network Repeater
- 1 INI-VG Series
- 1 Optional AM-50 or FPT-GATE-3 Extender Plate

E3-INX-D Plate

- 1 PM-9/PM-9G Power Supply
- 1 ILI-MB-E3 or ILI95-MB-E3
- 1 DACT-E3 Digital Communicator
- 1 RPT-E3 Network Repeater
- 1 INI-VG Series
- 4 AM-50 Series Amplifier
- 1 Optional FPT-GATE-3 Plate

Backbox Mounting Capacity

Number Components

E3BB-BD, D Size Box/Command Center (Voice), Black

- 1 PM-9/PM-9G Power Supply
- 1 INI-VG Series Voice Gateway
- 4 ILI-MB-E3/ILI95-MB-E3/ANX Loop Interface and
- 1 Additional ILI-MB-E3/ILI95-MB-E3/ANX Loop Interface or
- 1 DACT-E3 Digital Communicator and
- 1 RPT-E3 Network Repeater
- 1 Optional FPT-GATE-3 Plate

E3BB-BD, D Size Box/Command Center, Black

- 1 PM-9/PM-9G Power Supply
- 7 ILI-MB-E3/ILI95-MB-E3/ANX Loop Interface and
- 1 Additional ILI-MB-E3/ILI95-MB-E3/ANX Loop Interface or
- 1 DACT-E3 Digital Communicator and
- 1 RPT-E3 Network Repeater
- 1 Optional FPT-GATE-3 Extender Plate

Optional Extender Plates

AM-50 Extender Plate

- 1 AM-50-25 or AM-50-70

FPT-GATE-3 Extender Plate

- 1 FocalPoint® Gateway
- 1 PNET-1

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Description

The Gamewell-FCI, PM-9 Power Supply is a switching power supply that provides 9 amperes of filtered and regulated 24 VDC (nominal). It provides the power to the INX Transponder assembly and all of the E3 Series components. It is a component of the following systems.

- E3 Series® Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System
- E3 Series Broadband Voice Evacuation System
- NetSOLO® System

The PM-9 has an internal battery charging circuit capable of maintaining up to 55 A/H batteries. This module is designed for use with the Gamewell-FCI distributed audio networks.

Installation

Typically, the PM-9 Module can be mounted in the following E3 Series cabinets:

- Cabinet B and D, backbox
- Cabinet C, INX-E3 sub-assembly plate
- Cabinet C, INCC-E3 sub-assembly plate
- Cabinet D, E3-INX-D Plate
- Cabinet D, E3-ILI-D Plate

For information on the installation of the PM-9, refer to the following documents:

- E3 Series Expandable Emergency Evacuation Installation/Operating Manual, P/N: 9000-0574
- PM-9 Installation Instructions, P/N: 9000-0548
- Mass Notification System Manual, P/N:LS10013-000GF-E

Specifications

Input Voltage:	120 VAC 60 Hz @ 3.5 A. max.
Output Voltage:	24 VDC (nominal) FWR
Output Current:	9 amperes
Output Current:	1 ampere battery charging current
Alarm Current:	0.050 amp
Operating Temperature:	32° to 120° F (0° to 49° C)
Relative Humidity:	0 to 93% (non-condensing) at 90° F (32° C)
Dimensions:	10 1/2" W x 5" H x 2" D (27 x 13 x 5 cm)

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PM-9 Power Supply



PM-9

Features

- Listed under UL® Standard 864, 9th Edition.
- Listed under UL Standard UL2572 for Mass Notification.
- Includes 9 ampere, filtered, regulated power supply.
- Provides 1 ampere battery charging current.
- Offers energy and space saving switching technology.
- Contains an integral battery charger capable of recharging up to 55 AH batteries. (Batteries not furnished).

Ordering Information

Part Number	Description
PM-9	Power supply
29229	AC Line Filter Kit



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Description

The Gamewell-FCI, AM-50 Series amplifiers are a 50 watt, digital, switching power amplifier. The following lists the 2 types of AM-50 Series amplifiers that may be ordered.

- The AM-50-25 amplifier produces 25 V_{RMS} audio output.
- The AM-50-70 amplifier produces 70.7 V_{RMS} audio output.

The amplifiers are components of the following E3 Series® Systems.

- E3 Series Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System
- E3 Series Broadband Voice Evacuation System

WARNING: AM-50 Series Amplifiers Node Restriction:

The INI-VGX can support up to 4 AM-50 Series amplifiers with the same output voltage. However, you cannot wire an AM-50-25 amplifier and an AM-50-70 amplifier to the same INI-VGX Voice Gateway Node.

Each AM-50 Series amplifier provides 2 speaker circuits that can be wired Style Y (Class “B”) or Style Z (Class “A”). The terminal connections can accommodate up to 12 AWG, twisted-pair, shielded wire. Both speaker circuits produce a combined total of 50 watts of power. The 50 watts of power can be divided between the 2 integral Class A/B speaker circuits. The 2 speaker circuits may be individually activated and supervised by an INI-VGX Transponder Voice Gateway.

The AM-50 Series amplifier can be programmed to broadcast 16 messages generated from its local INI-VGX Voice Gateway. In addition, the AM-50 Series amplifiers produce superior clarity for intelligible LIVE voice paging.

When the selected System Sensor, SpectrAlert® Advance Series speakers are used with the Manufacturer’s 520 Hz audiophile, the E3 Series® System is compliant with UL Standard 464 Low Frequency requirements.

For additional information, refer to the SpectrAlert Advance Series Data Sheet, P/N:9021-60346.

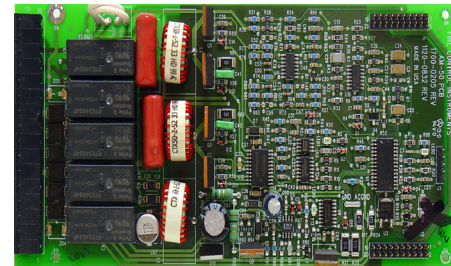
Installation

As many as four AM-50 Series amplifiers can be installed in the following cabinets when supervised and controlled by an INI-VGX Voice Gateway.

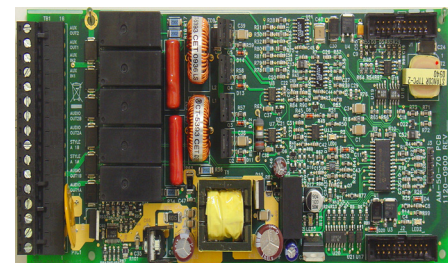
- Cabinet B, INX CAB-B
- Cabinet C, INX-CAB-C
- Cabinet D, INX-CAB-D

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AM-50 Series Amplifiers



AM-50-25



AM-50-70

Features

- Listed under UL® Standard 864, 9th Edition.
- Listed under UL Standard UL2572 for Mass Notification.
- Complies with UL Standard 464 for 520 Hz Low Frequency.
- Provides digital, switching amplifier technology.
- Produces 50 watts of digital power.
- Includes 2 speaker circuits, wired Style Y (Class B) or Style Z (Class A).
- Up to 4 AM-50 Series amplifiers with the same output voltage can be controlled by the INI-VGX voice gateway.

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Description (Continued)

The AM-50 Series amplifiers can be installed using the AM-50 Extender Plate whenever the E3 Series control panel is used in conjunction with the Autonomous Control Unit of the E3 Series Combined Fire and Mass Notification System.

- Cabinet C, E3 INCC-CAB-C

For additional information, refer to the E3 Series Combined Fire and Mass Notification Data Sheet, P/N:9021-60758

Specifications

AM-50-25 Amplifier

Operating Voltage: 27.3 to 20.4 VDC
Operating Current: 0.086 amp normal standby
Alarm Current: 2.206 amp max. alarm @ 50 Watt
Audio Output: 50 watts max. @ 25 V_{RMS}

AM-50-70 Amplifier

Operating Voltage: 27.3 to 20.4 VDC
Operating Current: 0.049 amp normal standby
Alarm Current: 2.30 amp max. alarm @ 50 watt
Audio Output: 50 watts max. @ 70.7 V_{RMS}

AM-50 Series Amplifiers

Relative Humidity: 0 to 93% max., (non-condensing) at 90° F (32° C)
Operating Temperature: 32° to 120° F (0° to 49° C)
Dimensions: 7 1/2" W x 3 1/2" H x 1 1/4" D
(19 W x 9 H x 3 D cm)

Ordering Information

Part Number Description

1100-0456 AM-50-25, INX 25V_{RMS} audio output, 50 watt amplifier
AM-50-70 INX 70.7V_{RMS} audio output, 50 watt amplifier

GAMEWELL-FCI

Description

ILI-MB-E3

The Intelligent Loop Interface-Main Board (ILI-MB-E3) is the main interface for the E3 Series® product line. With its state-of-the-art 32 bit RISC processor, this compact “panel on a board” provides a powerful addition to Gamewell-FCI’s single pair conductor solutions. The ILI-E3 Series is used in the following systems.

- E3 Series Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System

This intuitive design provides the following features:

- 2 signaling line circuits
- auxiliary power output
- local energy city box output
- auxiliary relay functions
- 2 notification application circuits

These features, combined with the built-in network and the serial protocols, allow this module to support a host of new and existing products, resulting in a building block approach to the fire alarm panel design.

The ILI-MB-E3 is network ready and occupies 1 of 64 nodes operating at 625K baud. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes. When this sub-assembly is integrated with proven Broadband components, the result is a flexible yet powerful integrated audio solution. When the system transmits to remote locations, the optional RPT-E3 provides the ILI-MB-E3 with valuable signal boosting and transient protection, as well as connectivity using both wire and fiberoptic cables.

The ILI-MB-E3 provides 2 signaling line circuits and terminals for the connections to up to 159 detectors, 159 modules and 159 addressable sounder bases per SLC in Velocity®. In CLIP™ mode, each SLC supports 99 detectors and 99 modules. The RS-485 interface can support a variety of peripheral devices.

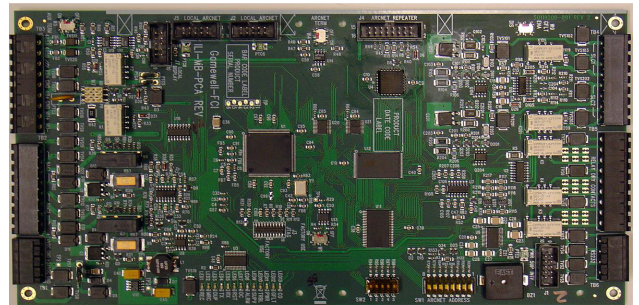
The ILI-MB-E3 relay outputs include system alarm, supervisory, and system trouble contacts. The ILI-MB-E3 provides output for a local energy city master box or remote location which is non power-limited. All other wiring is Class 2 power-limited.

CLIP™ is a trademark of System Sensor.

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Intelligent Loop Interface-Main Board



ILI-MB-E3

Features

ILI-MB-E3 and ILI-S-E3:

- Listed under UL® Standard 864, 9th Edition.
- Listed under UL Standard UL2572 for Mass Notification.
- Network ready integral 625K baud ARCNET.
- Supports 115.2K baud RS-232.
- Provides signaling line circuits with the following:
 - Two Class A, Style 6, 7* or Class B, Style 4 circuits.
 - 40 Character user-defined text per device.
 - Capacity of 159 sensors, 159 addressable modules and 159 addressable sounder bases per circuit.
- Includes 8100 Event History Log.

*Style 7 wiring requires the use of the System Sensor M500X Isolator Modules.

ILI-MB-E3 Only:

- Automatically adjusts to any NAC End-of-Line Resistor (EOL) value (1k-55k ohm) for legacy audible/visual appliances.
- Two notification appliance circuits, Class “A”, Style Z or Class B, Style Y rated at 2.0 amps. per circuit.
- RS-485 supporting 16 ASM-16 switch modules and/or ANU-48 LED driver modules.
- Alarm, trouble, and supervisory dry contacts Form “C”, rated at 2 amp. @ 30 VDC (resistive).
- Supports 1 LCD-SLP display via on-board ribbon cable connector.
- RS-485 terminal supports an additional 14 LCD-SLP displays/annunciators, 6 LCD-E3 displays/annunciators, 5 LCD-7100/RAN-7100 remote LED annunciators.

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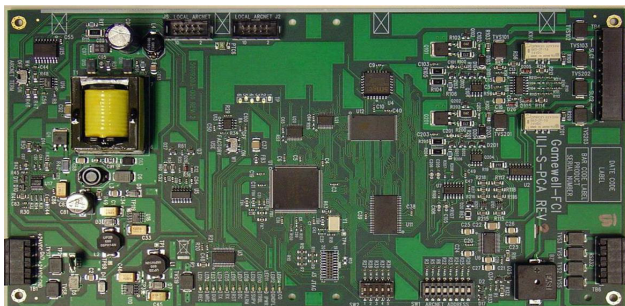
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ILI-S-E3

ILI-S-E3

The Intelligent Loop Interface - Expansion Board (ILI-S-E3) provides the E3 Series control panel with 2 additional electrically isolated signaling line circuits. The layout is similar to the ILI-MB-E3 except a number of components are omitted. The ILI-S-E3 occupies one node on the Broadband network. The ILI-S-E3 provides 2 signaling line circuits and terminals for the connections to up to 159 detectors, 159 modules and 159 addressable sounder bases per SLC in Velociti mode. In CLIP mode, each SLC supports 99 detectors and 99 modules.

Installation

Typically, the ILI-MB-E3 or ILI-S-E3 can be mounted in the following E3 Series cabinets:

- Cabinet B and D, backbox
- Cabinet B, B-Slim-E3 sub-assembly plate
- Cabinet C, E3-ILI-C sub-assembly plate
- Cabinet C, E3-INCC-C sub-assembly plate
- Cabinet C, E3-INX-C sub-assembly plate
- Cabinet D, E3-INCC-D sub-assembly plate
- Cabinet D, E3-INX-D sub-assembly plate

For instructions on the installation of the ILI-MB-E3 or ILI-S-E3, refer to the following documents:

- E3 Series® Expandable Emergency Evacuation Installation/Operation Manual, Part Number: 9000-0574
- ILI-MB-E3 Installation Instructions, Part Number: 9000-0579
- ILI-S-E3 Installation Instructions, Part Number: 9000-0569

For information on the ILI95-MB-E3 and ILI95-S-E3, refer to the ILI95-E3 Series Data Sheet, Part Number, 9021-60336.

For information on the ANX, refer to the ANX Data Sheet, Part Number, 9021-60497.

Specifications

ILI-MB-E3

Operating Current: 0.081 amp
Alarm Current: 0.150 amp max.

ILI-S-E3

Operating Current: 0.118 amp
Alarm Current: 0.119 amp

ILI-MB-E3 and ILI-S-E3

Operating Voltage: 24 VDC FWR (from the PM-9/PM-9G Power Supply).

Operating Temperature: 32° to 120° F (0° to 49° C)

Relative Humidity: 0 to 93%, non-condensing at 90° F (32° C)

Supervised

Class 2 Power-Limited

SLC 40 Ohms maximum line impedance

0.5 µf maximum line capacitance

Ordering Information

Part Number Description

ILI-MB-E3	Intelligent Loop Interface-Main Board
ILI-S-E3	Intelligent Loop Interface-Expansion Board

GAMEWELL-FCI

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Description

The LCD-E3 provides the main panel display of the E3 Series[®] Expandable Emergency Evacuation System with indicating LEDs and operating switches. Up to six (6), LCD-E3 displays may be locally or remotely located from the panel via a local RS-485 bus of the E3 Series, ILI-MB-E3/ILI95-MB-E3 or the S3 Series, SLP (Smart Loop Panel) sub-assembly.

The LCD-E3 includes an LCD display for the system status and the following switches and LED indicators:

Switches

- Alarm acknowledge
- Trouble acknowledge
- Signal silence
- System reset/lamp test
- Function buttons:
 - menu/back
 - back space/edit
 - OK
- 12 button keypad

LED Indicators

- AC Power On (green)
- Alarm (red)
- Supervisory (yellow)
- System Trouble (yellow)
- Power Fault (yellow)
- Ground Fault (yellow)
- System Silenced (yellow)

Installation Options

The LCD-E3 is adaptable for installation in any of the following E3 Series System cabinets.

Cabinet	Part Number
• "A" size cabinet, inner door	E3ID2-A
• "A2" flush cabinet	E3BB-FLUSH-LCD
• "A2" size cabinet, inner door	E3ID-A2
• "B" size cabinet, inner door	E3ID2-B
• B-Slim cabinet, outer door	E3BB-RBSLIM
• 7200 B Retrofit, inner door	7200-B-RETROFIT
• IF600 Retrofit, outer door	IF600-RETROFIT
• "C" size cabinet, inner door	E3ID2-C
• 600XL Retrofit, inner door	600XL-RETROFIT
• 7200 C Retrofit, inner door	7200-C-RETROFIT
• "D" size cabinet, inner door	E3ID2-D

Specifications

Operating Voltage:	24 VDC FWR (from PM-9 power supply)
Operating Current:	0.024 amp
Alarm Current:	0.028 amp
Operating Temperature:	32° to 120° F (0° to 49° C)
Relative Humidity:	0 to 93%, non-condensing at 90° F (32° C)

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LCD Keypad Display



LCD-E3

Features

- Listed under UL Standard 864, 9th Edition.
- Provides an 80-character display of system events together with indicating LEDs and control switches.
- The E3 Series, ILI-MB-E3/ILI95-MB-E3 or S3 Series, SLP can support up to six LCD-E3 displays, any or all of which may be remotely located via the RS-485 serial interface.
- Offers a legible backlit LED display, with low power consumption.

Ordering Information

Part Number	Description
LCD-E3	LCD keypad display

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Description

The ARCNET Repeater Module (RPT-E3) is an optional component of the E3 Series[®] and S3 Series fire alarm control panels. It allows the following remotable E3 Series and S3 Series sub-assemblies to connect to the Broadband network from the remote locations:

- ILI-MB-E3/ILI95-E3 Series
- S3 Series, SLP (Smart Loop Panel)
- ANX-SR/ANX-MR-UTP/ANX-MR-FO
- NGA

The RPT-E3 comes standard with network connections using unshielded, twisted-pair, copper wire. The following optional fiber-optic network connections using add-on modules are available.

- FML-E3 multi-mode fiber module (optional)
- FSL-E3 single-mode fiber module (optional)

Installation

The RPT-E3 is adaptable for an installation in the standard E3 Series and S3 Series cabinets. Typically, the RPT-E3 module is mounted on standoffs on the top of the right side of the ILI-MB-E3/ILI95-MB-E3/ANX modules and SLP motherboard.

For instructions on the installation of the RPT-E3, refer to the following documents:

- E3 Series[®] Expandable Emergency Evacuation Installation/Operation Manual, P/N: 9000-0574
- RPT-E3-UTP Installation Instructions, P/N: 9000-0580
- S3 Series UL Listing Document, P/N: LS10005-051GF-E

Specifications

Operating Voltage:	24 VDC FWR
Operating Current:	0.016 amp
Alarm Current:	0.017 amp
Operating Temperature:	32° to 120° F (0° to 49° C)
Relative Humidity:	0 to 93%, non-condensing at 90° F (32° C)
Wiring Specifications:	
Copper Wire:	16 to 18 AWG twisted-pair, unshielded Up to 3,000 ft. (914.4 m) between each node.
Fiber-Optic Cable:	Up to 200 microns (optimized for 62.5/125 microns).
(FML-E3 only)	Up to 8 dB loss between nodes.
Fiber-Optic Cable:	Optimized for 9/125 micrometer cable) @ 1310 nm.
(FSL-E3 only)	Up to 30dB loss between nodes.

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Network Repeater



RPT-E3-UTP

Features

- Listed under UL[®] Standard 864, 9th Edition.
- Provides the capability for networked E3 Series and S3 Series sub-assemblies to connect in Styles 4 or 7 configurations.
- Standard with unshielded, twisted-pair copper wire network connection.
- Add-on fiber-optic modules allow the network connection through single or multi-mode fiber-optic cables.
- 625K baud ARCNET Repeater.

Ordering Information

Part Number	Description
RPT-E3-UTP	Network Repeater, unshielded, twisted-pair
FML-E3	Multi-mode fiber-optic module for RPT-E3-UTP (one channel)
FSL-E3	Single-mode fiber-optic module for RPT-E3-UTP (one channel)

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Description

The Digital Alarm Communicator Transmitter (DACT-E3) is a digital communications circuit. It is an optional component of the following systems.

- E3 Series® Expandable Emergency Evacuation System
- S3 Series Small Addressable Fire Alarm Control Panel

The DACT-E3 sends digital signals over the telephone network to a central station. This module can be located in the main cabinet or remotely located via a local RS-485 serial interface.

The DACT-E3 is compatible with digital alarm communicator receivers (DACRs) that receive the following signaling formats:

- SIA DC8
- SIA DCS20
- Ademco Contact ID
- 3+1 1400 Hz
- 3+1 2300 Hz
- 4+2 1400 Hz
- 4+2 2300 Hz

In addition to the DACT-E3 being compatible with digital signaling formats, the DACT-E3 features numerous formats for communication to a central station. As a digital communicator, the DACT-E3 complies with FCC Part 8, Telecommunication Standards for DC and AC Ringer Equivalence.

Installation Instructions

The DACT-E3 is adaptable for installation in standard E3 Series and S3 Series System cabinets. Typically, the DACT-E3 module mounts on standoffs on top of the left side of the ILI-MB-E3/ILI95-MB-E3 or SLP (Smart Loop Panel) module. Either unit can be easily connected to the backbox or sub-assembly plate depending on the cabinet module.

Note: For instructions on installing the DACT-E3, refer to the following documents:

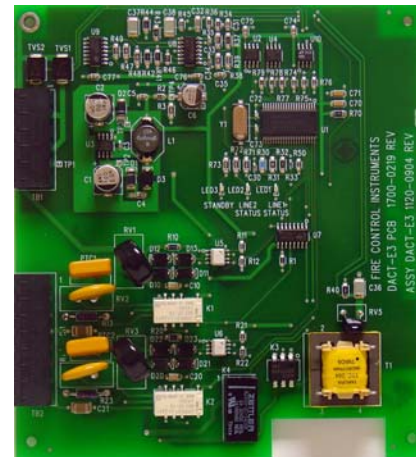
- E3 Series Expandable Emergency Evacuation Installation/Operation Manual, P/N:9020-0574
- DACT-E3 Installation Instructions, P/N:9000-0581
- S3 Series (Small Addressable Fire Alarm Control Panel) UL Listing Document, P/N:LS10005-051GF-E

Specifications

Operating Voltage:	24 VDC (from the PM-9/PM-9G power supply)
Operating Current:	0.018 amp
Alarm Current:	0.018 amp
Operating Temperature:	32° to 120° F (0 to 49° C)
Relative Humidity:	0 to 93%, non-condensing at 90° F (32° C)

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Digital Alarm Communicator Transmitter



DACT-E3

Features

- Listed under UL® Standard 864, 9th Edition.
- Communicates with the E3 Series, ILI-MB-E3/ILI95-MB-E3 or S3 Series SLP sub-assembly via RS-485.
- Transmits in a variety of formats (including full Contact ID).
- Transmits and verifies data to the central station.
- Offers pre-programmed dialing to the central station phone number.
- Performs on and off-hook status to the phone lines.
- Traces proper central station "ACK" and "Kiss-off" tone.
- Activates hang-up and release phone lines.
- Compatible with the IPDACT Internet Communicator.

Ordering Information

Part Number Description

DACT-E3 Digital alarm communicator transmitter

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Description

The INI-VG Series (Intelligent Network Interface-Voice Gateway) is an audio network interface that provides the connection for the remote microphone, fire fighter telephone, one signaling line circuit. In addition, it supports the connection for one NGA, and includes the following sub-assemblies:

- INI-VGC
- INI-VGE
- INI-VGX

The INI-VG Series is used in the following E3 Series Systems.

- E3 Series® Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System
- E3 Broadband Audio Evacuation System

INI-VGC

The INI-VGC Voice Gateway Module provides command and control functions for the INCC Command Center. The INCC serves as the point of interface between an operator and the system's audio evacuation, fire fighter intercom, and building control circuits.

A typical INCC assembly consists of an Intelligent Network Interface-Voice Gateway (INI-VGC) Module and one or more Addressable Switch Modules (ASM-16). Each INI-VGC can support up to 16 ANU-48 LED Driver Modules or ASM-16s for a total of 256 fully programmable switches and 768 LEDs (red, yellow, and green).

The INI-VGC occupies a single node on the E3 Broadband network and it is connected by a single pair of twisted, unshielded wire, fiber-optic cable or any combination of the two. The INI-VGC-UTP is not equipped with fiber-optic connectors. The INCC Command Center's INI-VGC module also provides connections for an optional emergency voice page microphone and a fire fighter telephone handset.

The INI-VGC is a fully digital voice/tone generator using state-of-the-art Digital Signal Processing (DSP) technology to produce the clearest, most audible signal possible. The INI-VGC provides an output to a local speaker for message verification and testing.

The E3 Broadband Audio Evacuation System is a peer-to-peer, self regenerating, token ring network comprised of up to 64 individual nodes. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes. Each E3 Broadband node can be spaced on the network at a maximum distance of 3,000 feet (914.4 m) or up to an 8dB loss using fiber-optic cable. Built-in isolation at each node supports Style 4, 6, and 7 network configurations.

E3 Series® is a registered trademark of Honeywell International Inc.

UL® is a registered trademark of Underwriters Laboratories, Inc.

INI-VG Series Command Center Voice Gateway



INI-VG Series

Features

The INI-VG Series include the following features:

- Listed under UL® Standard 864, 9th Edition
- Listed under UL Standard UL2572 for Mass Notification
- All communication signals and control-by-event sequences over twisted, unshielded pair of wires or fiber-optic cable
- Distributed architecture, including Style 7 wiring configuration, allows system components to continue normal operation with NO loss of function during single line fault conditions
- Each INI-VGC or INI-VGE supports up to six ANU-48 LED drivers or ASM-16 switch modules for a total of 256 switches
- INI-VGC connects to a voice page microphone and fire fighter's handset
- Redundant command centers with microphone and fire fighter's handset easily configured by adding INCCs
- Uses advanced digital signal processor (DSP) technology for efficient audio compression and filtering
- Network data transfer rate at 625K baud
- The INI-VGX includes the following features:
 - Software-programmable multi-channel digital audio applications
 - One Style 4 Signaling Line Circuit (SLC) supporting up to 32 addressable speaker circuits
 - AOM-2SF used for single channel and 16 addressable phone circuits (AOM-TELF)
 - Supports up to 150 watts of audio power (using the AM-50 Series amplifiers operating at 50 watts of power @ either 25V_{RMS} or 70.7V_{RMS} output) installed in a single, wall-mounted cabinet
 - 16 message capacity with up to 3 minute duration per INX and messages are easily field-configured via a laptop computer

SIGNALING



LISTED
S1869



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FDNY:
COA-#6077



City of
Chicago
Approved
Class1
Class2
High Rise

City of
DENVER
Approved

Description (Continued)

INI-VGE

The INI-VGE Voice Gateway Module provides command and control functions for the INCC Command Center. It provides bulk amplification. A typical INCC assembly consists of an Intelligent Network Interface-Voice Gateway (INI-VGE) Module and one or more Addressable Switch Modules (ASM-16). Each INI-VGE can support up to six ASM-16s for a total of 96 fully programmable switches and 288 LEDs (red, yellow, and green).

The INI-VGE occupies a single node on the E3 Classic network and is connected by a single pair of twisted, unshielded wire, fiber-optic cable or any combination of the two. The INI-VGE-UTP is not equipped with the fiber-optic connectors. The INCC Command Center's INI-VGE Module also provides connections for an optional emergency voice paging microphone as well as a fire fighter telephone handset.

The INI-VGE is a fully digital voice/tone generator using state-of-the-art Digital Signal Processing (DSP) technology to produce the clearest, most audible signal possible. The INI-VGE provides an output capable of driving up to 20 Model AA-100 or AA-120 amplifiers.

INI-VGX

The INI-VGX Transponder Voice Gateway is a component of the E3 Broadband Audio Evacuation System and an optional component of the E3 Series Expandable Emergency Evacuation System. It is a multi-function module that incorporates:

- Network interface using twisted, unshielded wire or fiber-optic cable
- Fully digital message generator
- One signaling line circuit for local peripheral devices
- Local fire fighter phone riser

It occupies a single DIP switch selectable address on the network and provides termination points for the network connection using either a pair of twisted, non-shielded wire (12 AWG max.) fiber-optic cable, or a combination of the two. The INI-VGX-UTP is not equipped with fiber-optic connectors.

The INI-VGX provides command and control for up to four AM-50 Series amplifiers, operating at 50 watts of power @ either 25V_{RMS} or 70.7V_{RMS} audio output. The amplifiers are installed in a single cabinet. The INI-VGX uses advanced Digital Signal Processing (DSP) technology for audio compression and filtering. This feature allows the E3 Broadband System to produce superior clarity for intelligible LIVE voice paging. The background noise is automatically filtered during voice paging and fire fighter communications which increases the audibility and eliminates the need for Push-to-Talk devices.

Specifications

INI-VGC, INI-VGE and INI-VGX

Operating Voltage: 24 VDC (nominal) from the PM-9/PM-9G Power Supply

Operating Current: 0.150 amp. supervisory and alarm

Operating

Temperature: 32° to 120° F (0 to 49° C)

Relative Humidity: 0 to 93% (non-condensing)

Supervised

Class 2 Power-Limited

Protocol: Asynchronous with half-duplex data flow

Speed: RS-232 up to 64 KBps
RS-485 up to 128 KBps

Wiring Specifications

(INI-VG Series & INI-VG-UTP Series):

Copper Wire: 16 to 18 AWG twisted-pair, unshielded. Up to 3,000 ft. (914.4 m) between each node.

Fiber-Optic Cable (INI-VG Series): Up to 200 microns (optimized for 62.5/125 microns). Up to 8 dB loss between each node.

Ordering Information

Part Number	Description
INI-VG Series:	
INI-VGC	Command center voice gateway
INI-VGC-UTP	Command center—(unshielded twisted-pair only)
INI-VGE	
INI-VGE	Command center classic voice gateway
INI-VGE-UTP	Command center (unshielded twisted-pair only)
INI-VGX	
INI-VGX	Transponder voice gateway
INI-VGX-UTP	Transponder voice gateway (unshielded twisted-pair)

GAMEWELL-FCI

by Honeywell

Description

The Gamewell-FCI, FML-E3 (Fiber-Optic Multi-Mode) and FSL-E3 (Fiber-Optic Single-Mode) are plug-in fiber loop modules. The two types of fiber option modules are used as one channel to transmit or receive communications with the Gamewell-FCI, RPT-E3-UTP (Network Repeater), ARCNET communication circuit.

The following describe the two types of fiber option modules.

- The FML-E3 is a fiber module that allows the multi-mode fiber to network between nodes. It features ST-style connectors with a maximum attenuation of 8db with 62.5/125 micrometer cable.
- The FSL-E3 is a fiber module that allows the single-mode fiber to network between nodes. It features LC-style connectors with a maximum attenuation of 30db with 9/125 micrometer cable.

Each fiber loop module can Transmit (TX) or Receive (RX) fiber-optic cable connecting to the RPT-E3-UTP. Up to two fiber loop cards can be added to the RPT-E3-UTP, and both cards may be combined in the same configuration.

Installation

The FML-E3/FSL-E3 modules are designed to be plugged into their designated spots on the RPT-E3-UTP.

Specifications

	FML-E3	FSL-E3
Connections:	ST style	LC style
Cable type:	62.5/125 micrometers	9/125 micrometers
Operating Current:	0.053 amp	0.079 amp
Alarm Current:	0.053 amp	0.079 amp
Operating Temperature:	32° to 120° F (0° to 49° C)	
Relative Humidity:	0 to 93%,non-condensing at 90° F (32° C)	

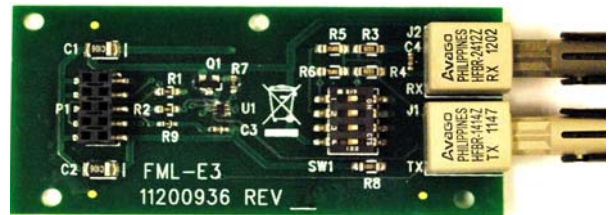
Ordering Information

Part Number Description

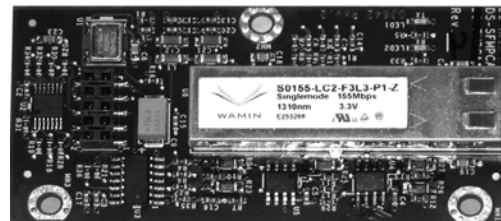
FML-E3	Fiber Loop Module - Multi-mode fiber, single TX or RX channel for RPT-E3-UTP
FSL-E3	Fiber Loop Module - Single-mode fiber, single TX or RX channel for RPT-E3-UTP
RPT-E3-UTP	Network Repeater, unshielded twisted-pair for E3 or S3, optional FML-E3 or FSL-E3 fiber modules

UL[®] is a registered trademark of Underwriter's Laboratories Inc.

Fiber Loop Modules



FML-E3 (Multi-Mode Fiber)



FSL-E3 (Single-Mode Fiber)

Features

- Listed per ANSI/UL[®] Standard 864 9th edition.
- FML-E3 features ST-style connectors with a maximum attenuation of 8 dB with 62.5/125 micrometer cable
- FSL-E3 features LC-style connectors with a maximum attenuation of 30db with 9/125 micrometer cable.
- Offers the option to combine single and multi-mode modules on the same network card.
- Provides a simple, plug-in card installation.

SIGNALING



MEAFDNY:
COA-#6162 7165-1703:0176



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Chicago
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THE VMC GROUP
Reference Certificate
of Compliance
VMA-45894-02C



GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

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9021-60783 Rev. D page 1 of 1

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7165-1703:0125

Page 1 of 2

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model E3 Series® BROADBAND and E3 Series® CLASSIC Voice Evacuation System. The E3 Systems may also work in conjunction with all the sub-assemblies of listee's 7100 Series Control Panel and NetSOLO systems (CSFM Listing No. 7165-1703:105 and 6911-1703:116, and 6911-1703:118).

Unit conveys all fire alarm, audio evacuation, voice paging, and fire fighter communications. Power-limited; non-coded, automatic, manual, smoke control, water flow, sprinkler supervisory, local auxiliary, central station, remote station, and proprietary service. Refer to listee's data sheet for additional detailed product description and operational considerations.

System components:

ILI-MB-E3; Intelligent Loop Interface Master Board
PM-9, PM-9G*; Power Supply
ILI-95-MB-E3, ILI-95-S-E3; Loop Interface Subassemblies
E3BB-FLUSH-LCD; Enclosure for ICD-E3
E3BB-BA/-RA/-BAA/-RAA/-BB/-RB/-BC/-RC/-BD; Cabinets*
RPT-E3-FO or; Repeater Sub-assembly, Fiber Optic or
RPT-E3-UTP; Repeater Sub-assembly, Unshielded twisted pair wire
LCD-E3; LCD Keypad Display
DACT-E3 sub-assembly; Digital alarm communicator transmitter
ILI-S-E3; Intelligent Loop Unit, Expansion Board
ANX-SR, ANX-MR-FO, ANX-MR-UTR; Addressable Node Expanders Sub Assembly*
INCC-E; Intelligent Network Enclosure*
INCC; Intelligent Network Central Command*
INI-VG, INI-VGC-UTP, INI-VGC-FO, INI-VGX-UTP; Intelligent Network Interface Sub Assembly*
INI-VGX-FO, INI-VGE-UTP, INI-VGE-FO; Intelligent Network Interface Sub Assembly*
ASM-16; Annunciator Switch Sub Assembly*
INX; Network Audio Transponder Enclosure*
ANU-48; Annunciator Sub Assembly*
NGA; Touch Screen LCD Display Sub Assembly*
LCD-7100; Remote LCD Display*
SBB-C4, SBB-D4; Backbox*

*Rev. 03-18-11bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division

FCI-VDR-D4B, FCI-DR-C4B, FCI-CR-D4B; Doors with locks*
 AA-100, AA-120; Amplifiers*
 AM-50-25, AM-50-70; Amplifier Sub Assembly*
 CHG120; Battery Charger with Cabinet*
 BC-1/FCI-LBB; Backbox*
 IPDACT-2; IP Digital Alarm Communicator*
 FPJ; Firefighters's Telephone Jack Receptacle*
 FHS; Portable Firefighters's Telephone Handset*
 7100 Series#; Fire Alarm Control Panel or
 INI-7100 UTP#; Intelligent Network Interface Sub-assembly, [Twisted, unshielded wire] or
 INI-7100 FO#; Intelligent Network Interface

RATING: 120 V, 60 Hz, 3.5 A Primary; 24 V dc, 9A Secondary

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as fire alarm control unit for use with separately listed electrically and functionally compatible initiating and indicating devices. Suitable for high-rise applications when used with the above voice evacuation systems.

This control unit can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NPFA 72, 2002 Edition.

This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: For Fire Alarm Verification Feature (delay of alarm signaling), the Retard/Reset/Restart period shall be 30 seconds or less.

*Rev. 03-18-11bh



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Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
 Fire Engineering Division

by Honeywell

Description

The Gamewell-FCI, HPFF8 is a Notification Appliance Circuit (NAC) expansion panel designed to extend the power capabilities of existing NACs and provide power for the auxiliary devices. The HPFF8 connects to any 12 or 24V Fire Alarm Control Panel (FACP) or stand alone.

The HPFF8 is available in 8.0 amps. It provides regulated and filtered 24VDC power to each of the four NACs and an auxiliary output. The NAC outputs are rated at 3.0 amps each (the total output cannot exceed 8.0 amps). The auxiliary output is rated at 2.0 amps. This output is continuously supplied, even in alarm, and therefore must be taken into account for power supply loading and battery size calculations.

The NAC outputs may be configured as any of the following:

- Four Class B (Style Y)
- Two Class A (Style Z)
- Two Class B and one Class A
- Four Class A with the optional HPP31076 Class A adapter installed

These power supplies contain an internal Battery charger capable of charging up to 26.0 amp-hour (AH) batteries.

The HPFF8 is mounted in lockable wall cabinet units that can accommodate up to two (2), 18AH batteries. A multi-pack option allows for up to four chassis mount units installed in a single lockable SBB-D4 enclosure. These chassis mount units have a "CM" suffix, HPFF8CM and can accommodate two 12AH batteries. Power supplies are available in either 120VAC/60 Hz or 240VAC/50 Hz.

One of the most challenging aspects of a retrofit application is locating the existing End-of-Line (EOL) resistor. In these applications that have EOL values, other than the 3.9k normally used with the HPFF8, a single resistor matching the existing EOL can be used as a reference for all the outputs. This feature speeds the installation and the system checkout, because the actual EOL does not need to be located and changed in the circuit. The reference resistor must be within the range of 1.9k to 25k.

NAC Expander/Power Supply



HPFF8

Features

- Four (4) supervised notification application circuits (NACs) capable of supplying +24VDC at 3.0 amp maximum each
- NAC output circuits may be configured as any of the following:
 - Four Class B (Style Y)
 - Two Class B & one Class A
 - Two Class A (Style Z)
 - Four Class A with the optional HPP31076 Class A adapter installed
- Four field-programmable operational modes
- 2.0 amp auxiliary continuously supplied output
- Two (2) fully supervised input/output control circuits
- Temporal coding and sync protocols compatible with the following notification appliance brands:
 - System Sensor
 - Gamewell
 - Cooper-Wheelock
 - Faraday
 - Amseco
 - Gentex
- Supervised AC input, battery voltage, auxiliary output, charger, and earth ground faults
- Trouble indication for supervision of the following:
 - NAC circuits
 - AC input
 - Battery voltage
 - Earth ground faults by individual status LED's
 - Auxiliary output
 - Charger
 - Open contacts in the initiating device signal inputs (for FACP trouble notification)
- Separate Trouble and AC Fail Form-C relay Contacts

An ISO 9001-2000 Company



GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.

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www.gamewell-fci.com

9021-60521 Rev. B page 1 of 2

Features (Continued)

- The Trouble Form-C relay contacts selectable for immediate or a 2 hour delay with AC failure
- 26 AH battery charger capability; the wall cabinet supports two 12V 18AH batteries, while the multi-pack equipment cabinets supports two 12V 12AH batteries.
- NAC Overload protection and indication
- Up to four chassis mount units (HPFF8CM) can be installed in the SBB-D4 backbox
- Wall mount units can be configured to internally house the following:
 - one AOM-2SF single control module
 - one AOM-2R single relay module

Specifications

Primary Input Power:	120VAC/60Hz, 3.6A or 220VAC/50Hz, 1.5A
Secondary Power:	24 volt operation: two (2), 7-24 AH batteries
Battery Charging Capacity:	Up to 26 AH batteries mounted
Battery Space:	
HPFF8 Cabinet:	Up to two 18AH batteries
SBB-D4 Cabinet:	Up to two 12AH batteries per supply
Total Output Power:	8.0A max
Standby Current:	0.030 A
Auxiliary Power Output:	0.15A under all conditions 2.0A if load is removed during operation (external relay or AC Fail Relay is required)

Specifications (Continued)

NAC Output Ratings:	24VDC fully regulated, 3.0A max per circuit (8.0A total)
End-of-Line Resistor Range:	2K to 25k ohm, ½ watt
Common Trouble Relay/AC Fail Relay:	2.0A at 28VDC or 120VAC
Input Control Circuit:	16-30VDC @ 5mA min.
Temperature Rating:	32°F to 120°F (0°C to 49°C)
Relative Humidity:	10% to 93% non-condensing
Cabinet Dimensions:	
HPFF8 Cabinet:	16.65" W x 19.0" H x 5.2" D (42.29 W x 48.26 H 13.23 D cm)
SBB-D4 Cabinet:	24" W x 45.9" H x 5.15" D (60.96 W x 116.52 H x 13.1D cm)

Ordering Information

Part Number	Description
HPFF8	8A fire rated power supply operating at 120VAC/60 Hz. Unit includes red enclosure with HPP lock and key
HPFF8CM	8A fire rated power supply - chassis mounted operating at 120VAC/60 Hz. Unit includes mounting hardware for installation in the SBB-D4 enclosure
HPFF8E	8A fire rated power supply operating at 240VAC/50 Hz
HPFF8CME	8A fire rated power supply chassis mounted operating at 240VAC/50 Hz
HPP31076	Class A (Style Z) NAC module
FCI-VDR-D4	Vented door, PK-625 lock and key for SBB-D4 backbox, black
SBB-D4	Backbox, accepts up to 4 chassis, black

GAMEWELL-FCI

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7315-1637:0102

Page 1 of 1

CATEGORY: 7315 -- POWER UNITS

LISTEE: HONEYWELL POWER PRODUCTS 12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: Vladimir.kireyev@honeywell.com

DESIGN: Models HPF24S6, HPF24S8, HPFF8, HPFF8E, HPFF8CM, HPFF8CME, HPFF12, HPFF12E, *HPFF12CM and *HPFF12CME power limited power supply/battery chargers used for supervision and expanded power driving capability of up to four Notification Appliance Circuits (FACP Fire Circuits, Signaling Devices) or resettable/non resettable outputs. Model ZNAC-4 Class A converter. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 120 VAC, 24 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product designation, electrical rating and UL label.

APPROVAL: Listed as power supply/battery chargers for use with separately listed compatible fire alarm control units.

XLF: 7315-0075:0206

*Rev. 10-20-10 bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division

by Honeywell

Description

The Gamewell-FCI, E3 Series[®], Local Operating Console (LOC) is a paging component that provides emergency notification and can be remotely distributed in real-time via pre-recorded messages, live voice paging, or text messages. It is used in the following E3 Series Systems.

- E3 Series Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System to comply with the DOD, United Facilities Criteria (UFC) guidelines
- E3 Series Broadband Voice Evacuation Systems

The LOC's robust distributed messaging capabilities allow users to program the system to broadcast messages that automatically change as the situation changes. This versatile feature makes it possible for the system to simultaneously distribute different emergency communications to zones, floors, multiple buildings, large outdoor campuses or facility areas.

The Local Operating Console uses a state-of-the-art Digital Signal Processor (DSP) that produces reliable, high fidelity audio messaging and it allows live voice instructions. The Network Touchscreen Graphic Annunciator (NGA) provides the LOC with the capability to display text messaging over the network to all Local Operating Consoles within a protected area. The Addressable Switch Module (ASM-16) includes 16 programmable switches for message, control, and zone paging.

The E3 Series LOC communicates over the network, allowing full communication and control over a single pair of wires or fiber-optic cable. This E3 distributed architecture, including Style 7 wiring configuration, provides complete supervision and survivability if a fault condition occurs or the system is compromised. All LOCs on the network are supervised.

The Local Operating Console comprises the following:

- AA Cabinet with mounting patterns for the INI-VG Series
- 3-slot inner door for mounting the following:
 - One INCC-MIC paging microphone
 - One or two ASM-16s
 - One ASM-16 and one NGA

Note: Gamewell-FCI recommends you install the speakers at 4 ft. (1.2 m) or more from the microphone.

Ordering Information

Part Number	Description
E3BB-BAA	AA Cabinet
E3ID3-A	Inner Door, 3 Slots
1100-1321	INI-VGC, Voice Gateway
1100-0452	INCC-MIC, Paging Microphone
1100-0455	ASM-16, Addressable Switch Module

Optional Components

1100-0505	NGA, Network Graphic Annunciator
Thumb lock	Thumb quarter turn latch
E3-TRIMKIT-A	Trim Ring

Local Operating Console



E3 Series LOC

Features

- Listed under UL[®] Standard UL2572 for Mass Notification.
- IBC Seismic Certified.
- Offers instantaneous audio or text messaging.
- Includes 16 message capacity with up to a 3 minute duration per each LOC.
- Supports up to 2 ASM-16 modules for a total of 32 switches for each LOC.
- Allows messages to be easily field-configured via a laptop computer.
- Built of 16-gauge steel backbox with a full Lexan[®] window and keylock on the door.
- Includes an optional thumb quarter turn latch and trim ring available.
- Provides all communication signals and control-by-event sequences connected over twisted, unshielded pair of wires or fiber-optic cable.
- Uses E3 Series distributed architecture, including Style 7 wiring configuration.
- Transmits at a network data transfer rate of 625K baud.

E3 Series[®] is a registered trademark of Honeywell International Inc.

Lexan[®] is a registered trademark of GE Plastics, a subsidiary of General Electric Corp.

UL[®] is a registered trademark of Underwriter's Laboratories Inc.

SIGNALING



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FDNY:

COA # 231-06-E



City of
Chicago
Approved
Class1
Class2
High Rise

City of
Denver
Approved

Reference Certificate



THE VMA GROUP
of Compliance
VMA-45894-02C
(Revision 1)

by Honeywell

Description

The Gamewell-FCI, NGA LCD Graphic Annunciator is a powerful, software programmable, touch-screen, remote annunciator. It is used with the following Gamewell-FCI systems.

- E3 Series® Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System
- E3 Series Broadband Voice Evacuation System

The bright, back-lit 1/4" VGA display is supplemented with an intuitive, easy-to-use touch-screen interface that provides the following features.

- Up to 512 user-defined messages may be configured.
- Messages may be up to 77 characters in length.
- Display font and color may be selected for each message.

The NGA mounts in the following enclosures or it can be remotely located.

- E3 Series Fire Command Center
- E3 Series Broadband Voice Command Center
- ACU Main Command Center
- E3 LOC Remote Command Center

It occupies one standard slot in the cabinet and directly connects to the INI-VGC or RPT-E3 which eliminates the need for a separate ARCNET interface. The NGA occupies one node on the Broadband network.

The back-lit LCD display indicates events stored in the System Event Log, the status of analog addressable monitor and control points and provides diagnostic fault codes/messages.

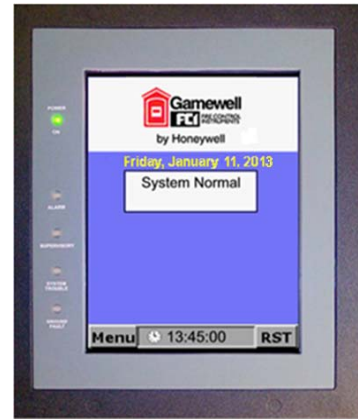
NGA Touchscreen Tabs and Buttons

The attractive, state-of-the-art display is user-friendly, easy-to-read and affords the end-user with the means to perform numerous functions via the touch-screen feature which is software programmable. The following list the switch and system maintenance functions.

- | | | |
|-------------------|---------------------|------------------|
| • MNS Alarm | • Fire Alarm | • Signal Silence |
| • MNS Trouble | • Fire Trouble | • Menu |
| • MNS Supervisory | • Fire Supervisory | • Scroll Up |
| • Fire Reset | • Alarm Acknowledge | • Scroll Down |
| • MNS Reset | • Text Message | |

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UL® is a registered trademark of Underwriters Laboratories Inc.

NGA Network Graphic Annunciator



NGA

Features

- Listed under UL® Standard 864, 9th Edition.
- Listed under UL Standard UL2572 for Mass Notification.
- 1/4" VGA display multipurpose touchscreen provides the following options:
 - Up to 512 user-defined messages may be configured.
 - Messages can be up to 77 characters in length.
 - Display font and color may be selected for each message.
- Software programmable touch-screen interface.
- Mounts in the following command center mounting spaces or enclosures.
 - E3 Series Expandable Emergency Evacuation System
 - E3 Series Broadband Voice Evacuation Systems
 - E3 Series Combined Fire & Mass Notification System
- 625K baud ARCNET communications.
- User-friendly design.
- Includes an RS-232 interface.

SIGNALING



Approved
FDNY: 7165-1703:0125
COA #6077



City of
Chicago
Approved
Class1
Class2
High Rise

City of
Denver
Approved



GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

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NGA LEDs

Additional LEDs located on the display panel perimeter indicate the following conditions.

- Power On
- System Trouble
- Ground Fault
- Alarm
- Supervisory

Figure 1 illustrates the NGA Screen with an MNS Alarm Event.



Figure 1 NGA Screen with MNS Alarm Event

Figure 2 illustrates the NGA System Reset screen for an Inactive Fire/MNS Event.

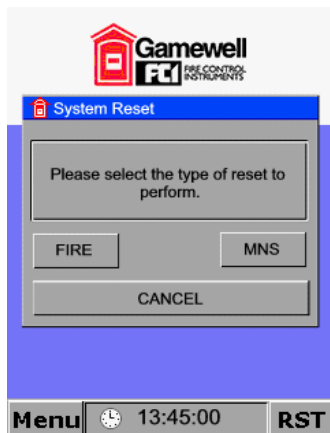


Figure 2 NGA Reset Screen for Inactive Fire/MNS Buttons

Specifications

- Operating Voltage:** 24 VDC from the PM-9/PM-9G power supply
- Operating Current:** 0.200 amp*
- Alarm Current:** 0.200 amp
- Operating Temperature:** 32° to 120° F (0° to 49° C)
- Relative Humidity:** 0-93% non-condensing at 90° F (32° C)

*Normal operating current. During power failure, current drops to 0.045 amp, since the back light is extinguished.

Ordering Information

Part Number	Description
1100-0505	Network graphic annunciator

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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7165-1703:0125

Page 1 of 2

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model E3 Series® BROADBAND and E3 Series® CLASSIC Voice Evacuation System. The E3 Systems may also work in conjunction with all the sub-assemblies of listee's 7100 Series Control Panel and NetSOLO systems (CSFM Listing No. 7165-1703:105 and 6911-1703:116, and 6911-1703:118).

Unit conveys all fire alarm, audio evacuation, voice paging, and fire fighter communications. Power-limited; non-coded, automatic, manual, smoke control, water flow, sprinkler supervisory, local auxiliary, central station, remote station, and proprietary service. Refer to listee's data sheet for additional detailed product description and operational considerations.

System components:

ILI-MB-E3; Intelligent Loop Interface Master Board
PM-9, PM-9G*; Power Supply
ILI-95-MB-E3, ILI-95-S-E3; Loop Interface Subassemblies
E3BB-FLUSH-LCD; Enclosure for ICD-E3
E3BB-BA/-RA/-BAA/-RAA/-BB/-RB/-BC/-RC/-BD; Cabinets*
RPT-E3-FO or; Repeater Sub-assembly, Fiber Optic or
RPT-E3-UTP; Repeater Sub-assembly, Unshielded twisted pair wire
LCD-E3; LCD Keypad Display
DACT-E3 sub-assembly; Digital alarm communicator transmitter
ILI-S-E3; Intelligent Loop Unit, Expansion Board
ANX-SR, ANX-MR-FO, ANX-MR-UTR; Addressable Node Expanders Sub Assembly*
INCC-E; Intelligent Network Enclosure*
INCC; Intelligent Network Central Command*
INI-VG, INI-VGC-UTP, INI-VGC-FO, INI-VGX-UTP; Intelligent Network Interface Sub Assembly*
INI-VGX-FO, INI-VGE-UTP, INI-VGE-FO; Intelligent Network Interface Sub Assembly*
ASM-16; Annunciator Switch Sub Assembly*
INX; Network Audio Transponder Enclosure*
ANU-48; Annunciator Sub Assembly*
NGA; Touch Screen LCD Display Sub Assembly*
LCD-7100; Remote LCD Display*
SBB-C4, SBB-D4; Backbox*

*Rev. 03-18-11bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division

FCI-VDR-D4B, FCI-DR-C4B, FCI-CR-D4B; Doors with locks*
 AA-100, AA-120; Amplifiers*
 AM-50-25, AM-50-70; Amplifier Sub Assembly*
 CHG120; Battery Charger with Cabinet*
 BC-1/FCI-LBB; Backbox*
 IPDACT-2; IP Digital Alarm Communicator*
 FPJ; Firefighters's Telephone Jack Receptacle*
 FHS; Portable Firefighters's Telephone Handset*
 7100 Series#; Fire Alarm Control Panel or
 INI-7100 UTP#; Intelligent Network Interface Sub-assembly, [Twisted, unshielded wire] or
 INI-7100 FO#; Intelligent Network Interface

RATING: 120 V, 60 Hz, 3.5 A Primary; 24 V dc, 9A Secondary

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as fire alarm control unit for use with separately listed electrically and functionally compatible initiating and indicating devices. Suitable for high-rise applications when used with the above voice evacuation systems.

This control unit can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NPFA 72, 2002 Edition.

This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: For Fire Alarm Verification Feature (delay of alarm signaling), the Retard/Reset/Restart period shall be 30 seconds or less.

*Rev. 03-18-11bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
 Fire Engineering Division



by Honeywell

Velociti® Series ASD-PL2F, ASD-PTL2F and ASD-PL2FR

Description

The Gamewell-FCI Velociti® Series, analog addressable plug-in smoke sensors with integral communication provide features that surpass conventional sensors. Sensitivity can be programmed in the control panel software, and is continuously monitored and reported to the panel. Point ID capability allows each sensor's address to be set, providing exact locations for selective maintenance when the chamber contamination reaches an unacceptable level. The ASD-PL2F photoelectric sensor's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the ASD-PTL2F model.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is a response speed up to five times greater than earlier designs.

Ordering Information

Part Number	Description
ASD-PL2F	Analog, addressable photoelectric smoke sensor
ASD-PTL2F	Analog, addressable photoelectric smoke sensor with thermal sensing
ASD-PL2FR	Analog, addressable photoelectric smoke sensor used with the DNR duct base when the remote test is required.

Velociti® is a registered trademark of Honeywell International Inc.
UL® is a registered trademark of Underwriters Laboratories Inc.

Analog, Addressable Photoelectronic Smoke Sensor



ASD-PL2F/ASD-PTL2F



ASD-PL2FR

Features

- Sleek, low-profile design.
- Visual rotary, decimal switch addressing (01-159).
- Built-in functional test switch activated by an external magnet.
- Bicolor LEDs flash green whenever the sensor is addressed, and light steady red on alarm.*
- Optional relay, isolator, or sounder bases.
- Low standby current.
- Analog addressable communication.
- Stable communication technique with noise immunity.
- Optional remote, single-gang LED Indicator (RA100Z).
- Compatible with Gamewell-FCI analog addressable panels.

Note: *Only the red LED is operative in panels that do not operate in Velociti® mode.

SIGNALING



LISTED
S1913

APPROVED
3023594

MEA
Approved
FDNY



COA #:219-02-E 7272-1703:0121

Vol.VI



GAMEWELL-FCI

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9020-0617 Rev. J page 1 of 2

Installation

ASD-PL2F plug-in sensors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove sensors without using a ladder.

Mount the base on a box which is at least 1.5" (3.8 cm) deep. Suitable mounting base boxes include:

- 4.0" (10.2 cm) square box.
- 3.5" (8.9 cm) or 4.0" (10.2 cm) octagonal box.
- Single-gang box (except relay or isolator bases).
- With B200S or B200SR base, mounted on a 4.0" (10.2 cm) octagonal or square box.
- With B224RB or B224BI base, mounted on a 3.5" (8.9 cm) octagonal box, or a 4.0" (10.2 cm) octagonal or square box.

NOTE: Because of the inherent supervision provided by the SLC, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring.

Sensor Spacing

Gamewell-FCI recommends that the spacing sensors be used in compliance with NFPA 72.

Specifications

ASD-PL2F, ASD-PTL2F, ASD-PL2FR:

Dimensions: 2.1" (5.1 cm) height
Diameter: 4.1" (10.4 cm) installed in the B501 base
6.1" (15.5 cm) installed in the B210LP base

Shipping Weight: 5.2 oz. (147 g)

Operating Temperature: ASD-PL2F:
32° F to 120° F (0° C to 49° C)
ASD-PTL2F:
32° F to 100° F (0° C to 38° C)

UL®-Listed Velocity Range: 0-4000 ft./min. (1,219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10-93% (non-condensing)

Thermal Ratings: Fixed-temperature setpoint
135° F (57° C)

Electrical Specifications

Voltage Range: 15 – 32 volts DC peak
Standby Current: (max. avg.): .0003 A @ 24 VDC
(One communication every 5 seconds with LED blink enabled).

Maximum Alarm-Current: .0065 A @ 24 VDC (LED) lit).

Bases and Options

B501 Plug-in sensor base without flange
Dimensions: 4.1" (10.4 cm) diameter

B210LP Flanged mounting base
Dimensions: 6.1" (15.5 cm) diameter

B210LPBP Flanged mounting base bulk pack
Dimensions: 6.1" (15.5 cm) diameter

B224RB Relay Base Plug-in sensor base with auxiliary relay, SPDT, rated 2 amps @ 30 VDC (resistive).
Screw terminals:
Up to 14 AWG (2.0 mm²)
2 coil latching relay 1 Form C contact
UL/CSA Rating:
0.9 A @ 125 VAC, inductive
0.9 A @ 110 VDC, inductive
3 A @ 30 VDC, resistive

Dimensions: 6.1" (15.5 cm) diameter
Maximum: 25 devices between isolator bases.

B200S Intelligent sensor sounder base
Dimensions: 6.875" (17.5 cm) diameter

B200SR Standard sounder base, UL 8649th Edition compliant, ULC Listed
Dimensions: 6.875" (17.5 cm) diameter

RA100Z Remote LED Annunciator

BCK-200 Black detector covers (box of 10)

DNR Duct smoke housing

GAMEWELL-FCI

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7272-1703:0121
CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

Page 1 of 1

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Brian Reynolds (203) 484-6277 Fax (203) 484-7309
Email: brian.reynolds@honeywell.com

DESIGN: Models ASD-PL2F, ASD-PL2FR*, ASD-FILTREXF, ASD-PTL2F, and MCS-ACCLIMATE2F photoelectric smoke detector. Models ASD-PL2F and MCS-ACCLIMATE2F employ a 135°F supplement integral heat sensor which only assists in a fire situation. This thermal circuitry is NOT approved for use in lieu of a required heat detector. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as photoelectric smoke detectors when used in conjunction with listee's separately listed compatible fire alarm control units and bases. All models are suitable for open areas and inside duct installations with air velocities between 0-4000 FPM. Models ASD-PL2F and ASD-PL2FR are also approved for installations inside System Sensor duct detector housing DNR (OSFM Listing No. 3242-1653:209) and DNRW (OSFM Listing No. 3242-1653:210)*.

NOTE: The photoelectric type detectors are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.

FORMERLY: 7272-1209:160 and 7272-0694:263

XLF: 7272-1653:0123

*Rev. 01-28-2010 fm



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Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division



by Honeywell

Velociti[®] Series

ATD-L2F, ATD-RL2F

Description

The Gamewell-FCI Velociti[®] Series, addressable plug-in thermal sensors with integral communication provide features that surpass conventional sensors. Point ID capability allows each sensor's address to be set, providing exact locations for pinpointing alarm locations and for selective maintenance. ATD thermal sensors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (ATD-L2F). The ATD-RL2F provides a combination 15°/minute rate-of-rise with 135° fixed thermal detection that is included in a low-profile package. The ATD-HL2F provides fixed high-temperature detection at 190°F/88°C. These thermal sensors provide cost-effective, addressable property protection in a variety of applications.

The Velociti[®] Series uses a communication protocol that substantially increases the speed of communication between the sensors and Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and identifies the single device with the status change. The net effect is response speed up to five times greater than earlier designs.

Installation

ATD plug-in sensors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove sensors without using a ladder.

Mount the base on a box which is at least 1.5" (3.8 cm) deep. Suitable mounting base boxes include:

- 4.0" (10.2 cm) square box.
- 3.5" (8.9 cm) or 4.0" (10.2 cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B200S or B200SR base, mounted on a 4.0" (10.2 cm) octagonal or square box.
- With B224RB or B224BI base, mounted on a 3.5" (8.9 cm) octagonal box, or a 4.0" (10.2 cm) octagonal or square box.

NOTE: Because of the inherent supervision provided by the SLC, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring.

Velociti[®] and E3 Series[®] are registered trademarks of Honeywell International Inc.

UL is a registered trademark of Underwriters Laboratories Inc.

ULC is a registered trademark of Underwriters Laboratories Canada Inc.

Addressable Thermal Sensor



ATD-L2F

Features

- Sleek, low-profile design
- Visual rotary switch addressing
- Built-in functional test switch activated by an external magnet
- Bicolor LEDs flash green whenever the sensor is addressed, and light steadily red on alarm*
- Optional relay, isolator, or sounder bases
- Low standby current
- Addressable communication
- Stable communication technique with noise immunity
- Optional remote, single-gang LED accessory (RA-100Z)
- Suitable for installation in ducts

Note: *Only the red LED is operative in panels that do not operate in Velociti[®] mode.

An ISO 9001-2000 Company

SIGNALING



MEA Approved



S2332 3023594 219-02-E Vol.VI 7270-1703:0115

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9020-0620 Rev. E page 1 of 2

Specifications

ATD-L2F/ATD-RL2F

Dimensions: 2.1" (5.3 cm) Height
4.1" (10.4 cm) diameter installed in the B501 base
6.1" (15.5 cm) diameter installed in the B210LP base

Shipping Weight: 4.8 oz. (137 g)

Operating

Temperature:

ATD-L2F or ATD-RL2F -4° F to 100° F (-20° C to 38°C)
ATD-HL2 -4° F to 150°F (-20 C to 66°C)

Sensor Spacing: UL[®] approved for 50 ft. (15.2 m) center to center
FM approved for 25 x 25 ft. (7.6 x 7.6 m) spacing

Relative Humidity: 10 – 93% (non-condensing)

ATD-L2F Fixed-temperature setpoint 135°F (57°C)

ATD-RL2F Combination 135° F fixed temperature and 15° F(8.3°c)/per minute rate-of-rise°

ATD-HL2F Fixed-temperature setpoint 190°F (88°C)

Electrical Specifications

Voltage Range: 15 - 32 Volts DC peak

Standby Current: 200 mA @ 24 VDC (without communication)

(max. avg.) .0003 A @ 24 VDC (one communication every 5 seconds with LED blink enabled)

LED Current (max.) .0065 A @ 24 VDC (LED lit)

Specifications

Bases and Options

B501 Plug-in sensor base without flange

Dimensions: 4.1" (10.4 cm) diameter

B210LP Flanged mounting base

Dimensions: 6.1" (15.5 cm) diameter

B210LPBP Flanged mounting base bulk pack

Dimensions: 6.1" (15.5 cm) diameter

B224RB Plug-in sensor base with auxiliary relay, SPDT

2 coil latching relay 1 Form C contact UL/ CSA Rating:
0.9 A @ 125 VAC (inductive)
0.9 @ 110 VDC (inductive)
3.A @ 30 VDC (resistive)

Dimensions: 6.1" (15.5 cm) diameter

B224BI Plug-in sensor isolator base for Style 7 operation

Dimensions: 6.1" (15.5 cm) diameter
Maximum 25 devices between isolator bases

B200S Intelligent sensor sounder base

Dimensions: 6.875" (17.5 cm) diameter

B200SR Standard sounder base, UL 864 9th Edition compliant, ULC Listed

Dimensions: 6.875" (17.5 cm) diameter

RA-100Z Remote LED Annunciator

BCK-200 Black detector covers (box of 10)

Ordering Information

Part Number	Description
ATD-L2F	Addressable thermal sensor, fixed, 135° F
ATD-RL2F	Addressable thermal sensor, combination fixed, 135° F and 15°/minute rate-of-rise.
ATD-HL2F	Addressable thermal sensor, fixed, 190° F

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FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

Page 1 of 1

LISTING No. 7270-1703:0115

CATEGORY: 7270 -- HEAT DETECTOR

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models ATD-L2, *ATD-L2F, ATD-HL2 AND *ATD-HL2F (fixed temperature) and ATD-RL2, *ATD-RL2F (fixed temperature with Rate-of-Rise) electronic heat detectors. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: ATD-L2, *-L2F, ATD-RL2, -*RL2F = 135°F fixed temperature
ATD-HL2, *-HL2F = 190°F fixed temperature

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical ratings, and UL Label.

APPROVAL: Listed as heat detectors for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

NOTE: FORMERLY: 7270-0694:256



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



by Honeywell

InnovairFlex™ Series DNR/DNRW Duct Smoke Housing

Description

The InnovairFlex™ Series, DNR intelligent, non-relay photoelectric duct smoke detector, and the DNRW watertight, non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints. These detectors are capable of mounting to a round or rectangular duct. The DNR/DNRW detectors can be used with the E3 Series® and 7100 Series Systems.

Note: The InnovairFlex™ Series, DNR requires the Velociti® Series, ASD-PL2FR Sensor and AOM-2RF, if relays are required for the fan control.

The DNRW duct smoke detector, with its NEMA 4 rating, is Listed as a watertight enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water. These features allow operators to use the detector in the most extreme environments.

The units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of -4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head from the low-flow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of the relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING:Duct smoke detectors have specific limitations. **DUCT SMOKE DETECTORS ARE:**

NOT a substitute for an open area smoke detector, NOT a substitute for early warning detection, and NOT a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional duct smoke detector 2911 application information.

E3 Series® and Velociti® are registered trademarks and InnovairFlex™ is a trademark of Honeywell International, Inc.

UL® is a registered trademark of Underwriters Laboratories Inc.

Intelligent Non-Relay Photoelectric Duct Smoke Housing



InnovairFlex-DNR/DNRW

Features

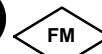
- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4,000ft/min (0.5m/s to 20.32m/sec)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- New Cover tamper signal
- Increased wiring space with a newly added 3/4-inch conduit knockout
- Available space within housing to accommodate the mounting of the relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- UL® 268A Listed
- Remote testing capability
- Requires SLC line power only
- NEMA Type 4 UL Listed for non-hazardous indoor and outdoor applications (DNRW only)
- UV Resistant, UL® Listed housing and cover material (DNRW only)

SIGNALING



LISTED

S911



APPROVED

3029700

MSFM

2202

2207



S911



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9021-60475 Rev. E page 1 of 4

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA4 Duct Smoke Detector. The detector housing shall be UL Listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4,000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

Physical Specifications

Size:

Rectangular Dimensions:	14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth
Square Dimensions:	7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth
Weight:	1.6 lb (0.73 kg)
Environmental Rating:	NEMA4 (DNRW only)
Operating Temperature Range:	−4° to 158°F (−20° to 70°C)
Storage Temperature Range:	−22° to 158°F (−30° to 70°C)
Operating Humidity Range:	0% to 95% relative humidity non-condensing
Air Duct Velocity:	100 to 4000 ft/min (0.5 to 20.32 m/sec)
DCOIL - (if included)	17.5 - 26.4 VDC .95mA max.

Electrical Ratings

For information on the electrical specifications, refer to the InnovairFlex DNR Duct Smoke Detector Installation Instructions, P/N I56-3051-001R.

Accessory Current Loads at 24 VDC

Device	Standby	Trouble
RA100Z	0 mA	12 mA Max.
RTS151/RTS151KEY	0 mA	12 mA Max.

Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab. (Figure 3 illustrates the front locking tab).



Figure 1



Figure 2



Figure 3

Wiring for Intelligent Non-Relay Duct Smoke Detector

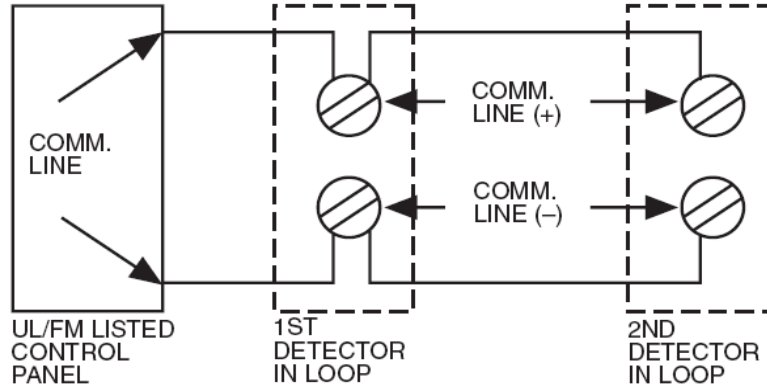


Figure 4 System Wiring Diagram for DNR

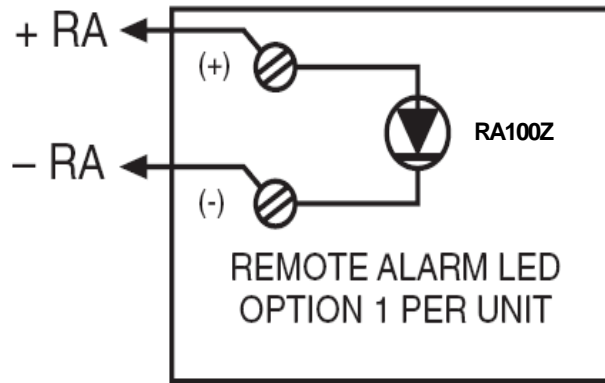


Figure 5 DNR to RA100Z

DNR TO RTS451/RTS451KEY/RTS151/
RTS151KEY WITH "R" REMOTE TEST
CAPABLE DETECTOR HEAD OPTION:

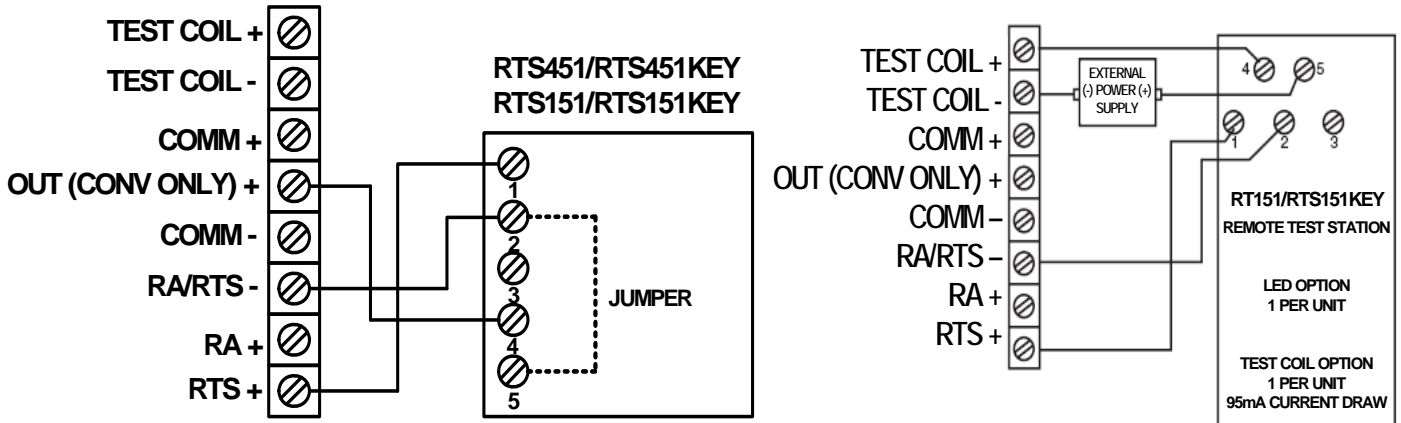


Figure 6 DNR to RTS151/RTS151 Key

Important Notes:

- The use of either RTS151 or RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. For additional information, refer to the DNR or DNRW Duct Smoke Detector Installation Instructions, P/N I56-3051-001R and the Duct Application Smoke Detectors Application Guide.
- The RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL Listed.

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Accessories

System Sensor provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL Listed.



Ordering Information

Part Number	Description
DNR	Intelligent non-relay photoelectric low-flow duct smoke detector
DNRW	Watertight intelligent non-relay photoelectric low-flow duct smoke detector
ASD-PL2FR	Intelligent photoelectric smoke sensor with remote test capability in duct applications

Accessories

Part Number	Description
DCOIL	Remove test coil required with RTS151/RTS151151KEY
DST1	Metal sampling tube duct width up to 1 ft (0.3m)
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)
DH400OE-1	Weatherproof enclosure
ETX	Metal exhaust tube duct width 1ft (0.3m)
M02-04-00	Test magnet
P48-21-00	End cap for metal sampling tubes
RA100Z/RA100ZA	Remote annunciator alarm LED
RTS151	Remote test station
RTS151KEY	Remote test station with key lock

GAMEWELL-FCI

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LISTING SERVICE

LISTING No. 7272-1703:0121
CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

Page 1 of 1

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Brian Reynolds (203) 484-6277 Fax (203) 484-7309
Email: brian.reynolds@honeywell.com

DESIGN: Models ASD-PL2F, ASD-PL2FR*, ASD-FILTREXF, ASD-PTL2F, and MCS-ACCLIMATE2F photoelectric smoke detector. Models ASD-PL2F and MCS-ACCLIMATE2F employ a 135°F supplement integral heat sensor which only assists in a fire situation. This thermal circuitry is NOT approved for use in lieu of a required heat detector. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as photoelectric smoke detectors when used in conjunction with listee's separately listed compatible fire alarm control units and bases. All models are suitable for open areas and inside duct installations with air velocities between 0-4000 FPM. Models ASD-PL2F and ASD-PL2FR are also approved for installations inside System Sensor duct detector housing DNR (OSFM Listing No. 3242-1653:209) and DNRW (OSFM Listing No. 3242-1653:210)*.

NOTE: The photoelectric type detectors are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.

FORMERLY: 7272-1209:160 and 7272-0694:263

XLF: 7272-1653:0123

*Rev. 01-28-2010 fm



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division



by Honeywell

Velociti[®] Series ABD-2F and ABD-RT2F

Description

The Gamewell-FCI Velociti[®] Series, ABD-2F and addressable projected beam smoke sensor is uniquely suited to sense smoke in hostile environments or open areas with high ceilings where spot-type sensors are unsuitable or difficult to install and maintain. It is intended for use in the signaling line circuits with the following sub-assemblies.

- E3 Series[®], ILI-MB-E3 and ILI-S-E3 (Velociti mode only)
- S3 Series, SLC-PM (Signaling Line Circuit-Personality Module)

The ABD-2F consists of a combination transmitter/receiver unit and a reflector. When smoke enters the path between the unit and the reflector, it causes a reduction in the signal, and when the smoke level reaches the predetermined threshold, an alarm results.

A unique single-ended reflective design offers simpler installation than the traditional transmitter and receiver types of beam sensors. Alignment is swiftly accomplished via an optical sight and a 2-digit signal strength meter integral with the product. Listed for operation from -22° F to 131° F, the ABD-2F can be installed in garages, warehouses and other hostile environments where temperature extremes exceed the capability of spot-type sensors.

The Velociti[®] Series uses a communication protocol that substantially increases the speed of communication between the sensors and Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group changes status, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The unit has four standard sensitivity selections along with two Acclimate settings. When either of the two Acclimate settings are selected, the sensor will automatically adjust its sensitivity using the advanced software algorithms to select the optimum sensitivity for the specific environment.

Single-Ended Reflected Type Beam Smoke Sensor



ABD-2F/RT2F

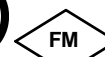
Features

- Includes a single-ended, reflective design.
- Has six user-selectable sensitivity levels.
- Spans a 16 to 328 foot (4.9 to 99.9 m) detection range.
- Compatible with the E3 Series[®] ILI-MB-E3 and ILI-S-E3 or the S3 Series, SLC-PM.
- Contains an integral sensitivity test feature (ABD-2SF).
- Designed with a digital display - no special tools required.
- Provides a user-friendly alignment procedure.
- Offers an integral automatic gain control that compensates for signal deterioration from dust build-up.
- Available with an optional Remote test station.

SIGNALING



LISTED
S1913



APPROVED
3023594

MEA
Approved
FDNY



COA #:219-02-E 7260-1703:0120

Vol. VI

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9020-0623 Rev. F page 1 of 2

Description (continued)

The ABD-RT2F is equipped with an integral sensitivity test feature consisting of a test filter attached to a servo motor inside the sensor optics. The ABD-RT2F requires an additional, external power supply. Using the remote test station Model RTS151, the motor moves the filter in the path of the light beam, thereby serving as an accurate test of the receiver sensitivity. This test feature allows the user to quickly and easily meet the annual maintenance and test requirements of NFPA 72.

Specifications

Operating Temperature

Range: -22° F to 131° F
(-30° C to 55° C)

Operating Humidity

Range: 10% to 93 RH
non-condensing

Dimensions:

Detector: 10" H x 7.5" W x 3.3" D
(25.4 H x 19 W x 8.4 D cm)

Reflector: 16-230 ft. (4.9 x 70.1 m)
7.9" H x 9.1" W
(20 H x 23 W cm)

Voltage Range: 15 to 32 VDC

Alarm Current: 8.5 mA max.

Standby Current: 2 mA max. avg. @ 24 VDC

Ordering Information

Part Number Description

B210LP Flanged mounting base.

Dimensions: 6.1" (15.5 cm) diameter.

B210LPBP Flanged mounting base bulk pack.

Dimensions: 6.1 (15.5 cm) diameter.

ABD-RT2F Single-ended smoke sensor with integral sensitivity test.

BEAMLRK Long range accessory kit (required for applications with a range over 230 ft. (70m).

BEAMMMK Multi-mount kit (provides ceiling or wall mount capability with increased angular adjustment).

BEAMSMK Surface mount kit.

RTS151 Remote test station.

RTS151KEY Remote test station with key lock.

GAMEWELL-FCI

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LISTING SERVICE

Page 1 of 1

LISTING No. 7260-1703:0120

CATEGORY: 7260 -- SMOKE DETECTION SYSTEM-BEAM TYPE

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models ABD-2F and ABD-RT2F analog type, Projected Beam Smoke Detector. Model ABD-RT2F contains a test feature consisting of a servo motor (and associated circuitry), which rotates an arm to obscure the optical path between the photodiode and IRLED simulating smoke. Refer to listee's data sheet for detailed product description and operational considerations.

RATING: 15-32 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as a projected beam smoke detection system for use with System Sensors Models BEAMMMK and BEAMSMK mounting kits and separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

NOTE: Formerly: 7260-1209:229, and 7260-0694:262

XLF: 7260-1653:0169



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



by Honeywell

Velociti® Series

AMM-4F

Description

The Gamewell-FCI Velociti® Series, addressable monitor module (AMM-4F) features a single Style D, Class A initiating device circuit. It may also be configured as a Style B, Class B initiating circuit with end-of-line resistor. This module provides an address for any device or group of devices connected to this circuit. Any alarm initiating devices with normally open (N.O.) dry contacts, such as heat detectors, linear heat detection devices, 4-wire projected beam smoke detectors, 4-wire smoke detectors, water flow switches, tamper switches, manual stations, etc. may be installed in this circuit.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The AMM-4F module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable control panel. The initiating circuit of the AMM-4F has a maximum line resistance of 40 ohms, allowing the module to accommodate a number of initiating devices at a distance from the module. The AMM-4F is designed to mount in a 4" square junction box 2 1/8" deep.

The initiating device circuit of the AMM-4F can support a maximum line resistance of up to 40 ohms allowing the use of linear heat detection devices.

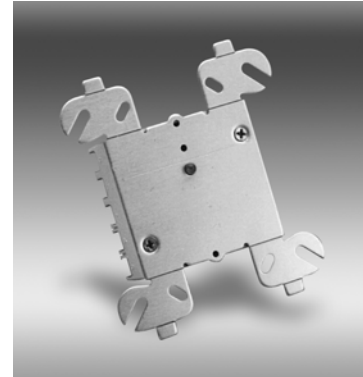
Ordering Information

Model Description

AMM-4F Addressable monitor module, single circuit, Style D, Class A or Style BC/A and B

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Addressable Monitor Module



AMM-4F

Features

- Compact size allows easy installation
- Class A, Style D, or Class B, Style B initiating circuit
- Visual rotary, decimal switch addressing (01-159)
- 40 ohm line resistance for each initiating device circuit
- Accommodates any N/O dry contact device
- Bicolor LEDs flash green whenever the module is addressed, and light steady red on alarm*

*Note: Only the red LED is operative in panels that do not operate in Velociti® mode.

Specifications

Supervisory current:	.000375 amps. (LED flashing)
Alarm current:	.005 amps. (LED lit)
Operating temperature:	32° to 120° F (0° to 49° C)
Relative humidity:	10 to 93% (non-condensing)
End-of-line resistor:	47K ohms
Dimensions:	4 1/2" H x 4" W x 1 1/4" D (11.4 x 10.2 x 3.2 cm)

SIGNALING



LISTED S1949



APPROVED 3023594

MEA Approved



227-03-E Vol. IV 7300-1703:0102



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LISTING SERVICE

LISTING No. 7300-1703:0102 Page 1 of 1

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models AMM-4, *AMM-4F, AMM-2 and *AMM-2F monitor modules and Models AOM, AOM-2, AOM-2R, *AOM-2RF, AOM-2S and *AOM-2SF control modules. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as accessories for use with separately listed compatible control units. System Sensor Model SMB500 surface mount box (CSFM Listing No. 7300-1653:103) may be used as an enclosure for these modules

NOTE: FORMERLY: 7300-0694:178

XLF: 7300-1653:0103

12-4-07



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



by Honeywell

Velociti® Series

AMM-2IF

Description

The Gamewell-FCI Velociti® Series, addressable dual monitor module, AMM-2IF, features two (2), Style B, Class B initiating device circuits, each with an end-of-line resistor. This module provides addresses for any device or group of devices connected to each circuit. Any alarm initiating devices with normally open (N.O.) dry contacts, such as heat detectors, 4-wire projected beam smoke detectors, 4-wire smoke detectors, water flow switches, tamper switches, manual stations, etc. may be installed in these circuits.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The first circuit address is set via a rotary switch. The second circuit is automatically assigned the next higher address. The module has a single panel-controlled red LED.

The AMM-2IF module is designed for installation in the signaling line circuit of any Gamewell-FCI addressable control panel. The AMM-2IF is designed to mount in a 4" square junction box, 2 1/8" deep. The initiating device circuit of the AMM-2IF can support a maximum line resistance of up to 40 ohms allowing the use of linear heat detection devices.

Ordering Information

Model	Description
AMM-2IF	Monitor module, two circuit, Style B, Class B

Velociti® and E3 Series® are registered trademarks of Honeywell International Inc.

Addressable Dual Monitor Module



AMM-2IF

Features

- Compact size allows easy installation
- Class B, Style B, initiating device circuits
- Visual rotary, decimal switch addressing (01-159)
- 40 ohm line resistance for each initiating circuit
- Accommodates any normally open contact device
- Bicolor LEDs flash green whenever the module is addressed, and light steady red on alarm*

*Note: Only the red LED is operative in panels that do not operate in Velociti® mode.

Specifications

- Supervisory current:** 0.0075 amp.
- Alarm current:** .0057 amp. (LED lit)
- Operating temperature:** 32° to 120° F (0° to 49° C)
- Relative humidity:** 10 to 93% (non-condensing)
- Dimensions:** 4 1/2" H x 4" W x 1 1/4" D (11 H x 10.2 W x 3 D cm) (Mounts in a 4" square by 2 1/8" deep box).
- End-of-line resistor:** 47 K ohms

SIGNALING



LISTED S1949



APPROVED 3023594

MEA Approved



227-03-E Vol. IV 7300-1703:0107



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LISTING SERVICE

LISTING No. 7300-1703:0107 Page 1 of 1

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models AOM-MUX, *AOM-MUXF, AOM-TEL, *AOM-TELF control modules and Model AMM-2I, AMM-21F dual monitor module. Unit is intended to be installed in a standard 4" square junction box. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 16-32 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as control unit accessories for use with separately listed compatible fire alarm control units.

NOTE: FORMERLY: 7300-0694:232

12-4-07



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division

Description

The Gamewell-FCI Velociti® Series addressable output supervised control module (AOM-2SF) allows a Gamewell-FCI analog addressable fire alarm control panel to switch an external power supply, such as a DC supply or audio amplifier (up to 80 V_{RMS}) to notification appliances. The AOM-2SF notification appliance circuit can be wired either Class A (Style Z) or Class B (Style Y). It also supervises the wiring to the connected loads and reports their status to the panel as NORMAL, OPEN or SHORT CIRCUIT. The module contains a panel controlled LED.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the SLC devices and certain Gamewell-FCI analog addressable fire alarm control panels. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net result is a superior response speed up to five times greater than the earlier designs.

The AOM-2SF module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable fire alarm control panel. The signaling line circuits of Gamewell-FCI analog addressable fire alarm control panels are designed to accommodate up to 159 modules per circuit. The AOM-2SF is designed to mount in a 4" (10.16 cm) square junction box 2 1/8" (5.5 cm) deep.

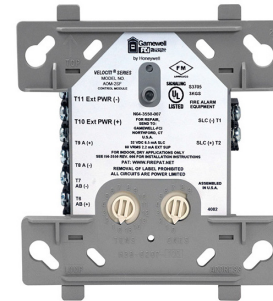
Table 1 lists the relay contact ratings.

Current Rating	Maximum Voltage	Load Description	Application
3A	30 VDC	Resistive	Non-Coded
2A	30 VDC	Resistive	Coded
0.9A	110 VDC	Resistive	Non-Coded
0.5A	125 VAC	Resistive	Non-Coded
0.5A	30 VDC	Inductive (L/R=5ms)	Coded
1A	30 VDC	Inductive (L/R=2ms)	Coded
0.5A	125 VAC	Inductive (PF=.35)	Non-Coded
0.7A	75 VAC	Inductive	Non-Coded

Table 1: Relay Contact Ratings

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UL® is a registered trademark of Underwriters Laboratories Inc.

Addressable Output Relay Supervised Control Module



AOM-2SF

Features

- Listed under UL® Standard 864 and UL2572 for Mass Notification.
- Designed as a compact size to allow easy installation.
- Includes Class A, Style Z, or Class B, Style Y notification appliance circuit.
- Accommodates audio amplifiers up to 80 V_{RMS}.
- FM Listed as suitable for a releasing device service.
- Includes a bicolor LED that flashes green whenever the module is addressed, and lights steady red upon activation*.

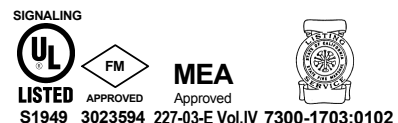
*Note: Only the red LED is operative in panels that do not operate in Velociti® mode.

Specifications

- Supervisory Current:** .000375 amps
- Alarm Current:** .0065 amps
- Operating Temperature:** 32° to 120° F (0° to 49° C)
- Relative Humidity:** 10 to 93% relative humidity (non-condensing)
- Dimensions:** 4 1/2" H x 4" W x 1 1/4" D (11.4 H x 10.2 W x 3.2 D cm)

Ordering Information

Part Number	Description
AOM-2SF	Addressable output supervised control module



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LISTING SERVICE

LISTING No. 7300-1703:0102 Page 1 of 1

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models AMM-4, *AMM-4F, AMM-2 and *AMM-2F monitor modules and Models AOM, AOM-2, AOM-2R, *AOM-2RF, AOM-2S and *AOM-2SF control modules. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as accessories for use with separately listed compatible control units. System Sensor Model SMB500 surface mount box (CSFM Listing No. 7300-1653:103) may be used as an enclosure for these modules

NOTE: FORMERLY: 7300-0694:178

XLF: 7300-1653:0103

12-4-07



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Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



by Honeywell

MS-7 Series

Description

The Gamewell-FCI, MS-7 Series manual fire alarm stations are available in a wide variety of configurations. The Stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All stations have a key lock/reset which is keyed alike with Gamewell-FCI fire alarm control panels and other manual fire alarm stations.

MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

The Velociti® Series stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect is response speed up to five times greater than earlier designs.

MS-7 Double Action Station

The MS-7 double action station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

Velociti® is a registered trademark of Honeywell International Inc.

UL® is a registered trademark of Underwriter's Laboratories Inc.

LEXAN® is a registered trademark of GE Plastics, a subsidiary of General Electric Company.

Non-Coded, Manual Fire Alarm Stations



MS-7

Features

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls
 - Conventional stations suitable for use with any UL® Listed control panel
 - Both single and double action stations available
 - Tumbler lock for test and reset keyed alike with Gamewell-FCI controls
 - Surface or semi-flush mounting
 - Shock and vibration resistant
 - Stations (MS-7LOB) Listed for outdoor applications
 - Complies with ADA pull force requirements
- *Only the red LED is operative in panels that do not operate in Velociti mode.

SIGNALING



LISTED S2465

APPROVED 3023594

MEA

Approved

67-02-E Vol.VIII



7150-1703:0119

7150-1703:0170

7150-1703:0109



GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.

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www.gamewell-fci.com

9020-0616 Rev. E page 1 of 2

MS-7S Single Action Station

The MS-7S single action station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

MS-7SP Double Action Station

The MS-7SP is a double action station similar to the MS-7 station, with the additional feature of both English and Spanish instructions molded into the unit.

MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of an MS-7LR mounted on a plate with an abort switch and LED indicators for system normal, and system activated status.

MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

Mounting

The MS-7 interior stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).



Figure 1 NYC-Plate

Specifications

Material:	Lexan®
Contact Ratings:	0.25 amps. @ 30 VAC/VDC (resistive)
Dimensions:	5 5/8" H x 4 1/4" W x 1 1/4" D (14 x 10.1 x 3.2 cm)
Operating Temperature	
(MS-7AF, MS-7ASF):	32° to 120° F (0° to 49° C)
(MS-7LOB):	-30° to 150° F (-35° to 66° C)
Relative Humidity	
(MS-7AF, MS-7ASF):	10 to 93% (non-condensing)
(MS-7LOB):	85% ± 5% @ 86° ± 3.6° (30° ± 2° C)
Alarm Current:	.0030 amp. 0.007 for LED
Supervisory Current	
(MS-7AF, MS-7ASF):	.00030 amps.

Ordering Information

Part Number	Description
MS-7	Double action station
MS-7AF**	Velociti addressable double action station
MS-7ASF**	Velociti addressable single action station
MS-7S	Single action station, wire leads
MS-7SP	Double action station, English and Spanish instructions
MS-7LR	Agent release station, dual-action
MS-7LRA	Agent release station with abort switch, LED indicators, dual-action
MS-7LOB	Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)
SB-I/O	Indoor/outdoor use backbackbox
SB-10	Surface backbox
BG12TR	Trim ring for semi-flush mount, plastic
NY-PLATE	NYC backplate for manual pull station

**For use with the Gamewell-FCI analog addressable control panels only.

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7150-1703:0119

Page 1 of 1

CATEGORY: 7150 -- FIRE ALARM PULL BOXES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model MS-7AF dual action fire alarm pull box. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, and UL label.

APPROVAL: Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

* These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments.

NOTE: Formerly: 7150-0694:261

XLF: 7150-0028:0199

*Updated 09-08-2009 fm



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Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



Indoor Selectable-Output Speaker Strobes and Dual Voltage Evacuation Speakers for Wall Applications

System Sensor L-Series selectable output speaker strobes and dual-voltage evacuation speakers can reduce ground faults and enable faster installation with lower current draw and modern aesthetics.

Features

- Plug-in design and protective cover reduce ground faults
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation
- No extension ring required
- Field selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, 185
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1 and 2 watts)
- Speakers offer high fidelity and high volume sound output
- Compatible with System Sensor synchronization protocol
- Electrical compatibility with existing SpectrAlert and SpectrAlert Advance products
- Tamper-resistant construction
- Updated modern aesthetics

Agency Listings



7320-1653:0505



The System Sensor L-Series of speakers and speaker strobes reduce costly ground faults using a plug-in design and universal mounting plate that allow the installer to pre-wire mounting plates, dress the wires, and confirm wiring continuity before plugging in the speakers. In addition, a protective plastic cover prevents nicked wires by covering exposed speaker components.

These devices also enable faster installations by providing instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 7 field-selectable candela settings for wall speaker strobes.

The low total harmonic distortion of the speaker offers high fidelity sound output while still offering high volume sound output for use in high ambient noise applications.

System Sensor L-Series makes installation easy

- Attach a universal mounting plate to a 4 × 4 × 21/8 inch back box. Flush-mount applications do not require an extension ring.
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Hinge the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

L-Series Speaker and Speaker Strobe Specifications

Architectural/Engineering Specifications

General

L-Series speaker and speaker strobes shall mount to a 4 × 4 × 21/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, L-Series speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Wall-mount speaker strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, 185.

Speaker

The speaker shall be a System Sensor L-Series model _____ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It should be listed to UL 1480 and shall be approved for fire protective service. The speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature between 32°F and 120°F. The speaker shall have power taps and voltage that are selected by rotary switches.

Speaker Strobe combination

The speaker strobe shall be a System Sensor L-Series model _____ listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz. The module shall mount to a 411/16 × 411/16 × 21/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical Specifications

Operating Temperature	32°F to 120°F (0°C to 49°C)		
Humidity Range	10 to 93% non-condensing		
Dimensions, Wall-Mount	Length	Width	Depth
SPL Speaker	6.5 in, 165 mm	5 in, 127 mm	.97 in, 23 mm
With Surface Mount Back Box	6.6 in, 168 mm	5.1 in, 130 mm	3.2 in, 82 mm
SPSL Speaker/Strobe (including lens and speaker)	6.5 in, 165 mm	5.0 in, 127 mm	2.3 in, 58 mm
With Surface Mount Back Box	6.6 in, 168 mm	5.1 in, 130 mm	4.5 in, 116 mm

Electrical/Operating Specifications

Nominal Voltage (speakers)	25 Volts or 70.7 Volts(nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Strobe Flash Rate	1 flash per second
Nominal Voltage (strobes)	Regulated 12 VDC or regulated 24 DC/FWR ^{1,2}
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33V (24 V nominal)
Operating Voltage with MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33V (24 V nominal)
Frequency Range	400 to 4000 Hz
Power	¼, ½, 1, 2 watts

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

2. Strobe products will operate at 12 V nominal only for 15 and 30 cd

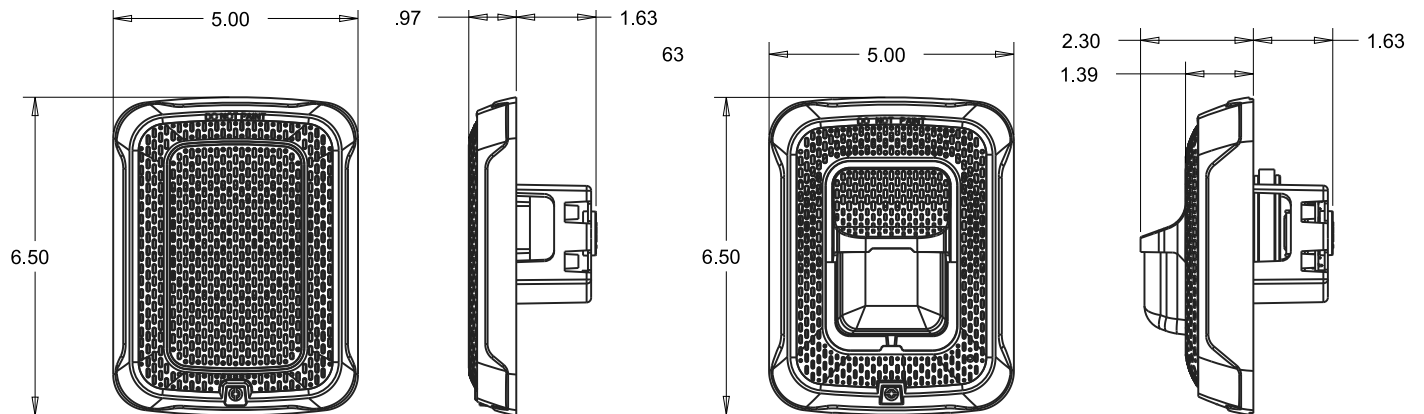
UL Current Draw Data

UL Max Strobe Current Draw (mA RMS)			
	8 to 17.5 Volts	16 to 33 Volts	
Candela	DC	DC	FWR
15	88	43	60
30	143	63	83
75	N/A	107	136
95	N/A	121	155
110	N/A	148	179
135	N/A	172	209
185	N/A	222	257

Sound Output Speaker Strobe				
	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @10 ft)	77	80	83	86
UL Anechoic (dBA @10 ft)	77	80	83	86

Sound Output Speaker				
	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @10 ft)	79	82	85	88
UL Anechoic (dBA @10 ft)	79	82	85	88

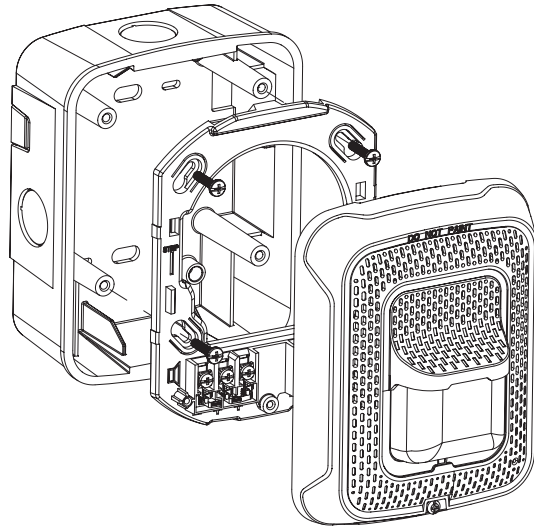
L-Series Dimensions



Wall-Mount Speaker

Wall-Mount Speaker Strobe

Surface Mounting



Wall-Mount Speaker Strobe with SBBSP Surface Mount Back Box

L-Series Ordering Information

Wall Mount		
White	Red	Description
SPWL	SPRL	Speaker only
SPSWL	SPSRL	Speaker Strobe
SPSWL-P	SPSRL-P	Plain Speaker Strobe
SPSWL-ALERT	—	Speaker Strobe, Amber Lens
SPSWL-CLR-ALERT	—	Speaker Strobe Clear Lens
—	SPSRL-SP	Speaker Strobe, Fuego
Accessories		
White	Red	Description
RFPW	RFP	7 in × 9.5 in Retrofit Plate
SBBSPWL	SBBSPRL	Surface Mount Back Box for Speakers and Speaker Strobes
TR-2W	TR-2	Wall Mount Trim Ring

Notes:

All -P models have a plain housing (no "FIRE" marking on the cover)



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 Phone: 800-SENSOR2 • Fax: 630-377-6495
www.systemsensor.com

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 for current product information, including the latest version of this data sheet.
 AVDS86701 • 03/17

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FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7320-1653:0505

Page 1 of 2

CATEGORY: 7320 -- SPEAKERS

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: Vladimir.Kireyev@honeywell.com

DESIGN: System Sensor Indoor Models:
SPRL and SPWL Wall Speakers;
SPCRL and SPCWL Ceiling Speakers;
SPSRL, SPSWL, SPSRL-P, SPSRL-SP, SPSWL-P, SPSWL-ALERT and SPSWL-CLR-ALERT Wall Speaker Stobes;
SPSCRL, SPSCWL, SPSCWL-P, SPSCWL-SP and SPSCWL-CLR-ALERT Ceiling Speaker Stobes.

Wall Bezel Parts:

BZSPR-P, BZSPR-AL, BZSPR-EV, BZSPR-AG, BZSPR-PG, BZSPR-F and BZSPR-SP,
BZSPW-P, BZSPW-AL, BZSPW-EV, BZSPW-AG, BZSPW-PG, BZSPW-F and BZSPW-SP,

Ceiling Bezel Parts:

BZSPRC-P, BZSPRC-AL, BZSPRC-EV, BZSPRC-AG, BZSPRC-PG, BZSPRC-F and BZSPRC-SP,
BZSPWC-P, BZSPWC-AL, BZSPWC-EV, BZSPWC-AG, BZSPWC-PG, BZSPWC-F and BZSPWC-SP,

Wall Trim Rings for Speaker Stobes:

TR2 and TR2W

Ceiling Trim Rings for Speaker Stobes:

TRC2 and TRC2W.

Wall Surface Mounted Back Boxes:

SBBSPRL and SBBSPWL,

Ceiling Surface Mounted Back Boxes:

SBBCRL and SBBCWL

Refer to listee's data sheet for detailed product description and operational considerations.

02-27-17 gt



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Date Issued: July 01, 2017

Listing Expires June 30, 2018

Authorized By: DAVID CASTILLO, Program Coordinator
Fire Engineering Division

- RATING:** 25 or 70.7 VAC, 1/4, 1/2, 1, 2 Watt outputs.
Regulated 12 VDC and 24 VDC/FWR is for 2-wire strobe portion.
- INSTALLATION:** In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.
- MARKING:** Listee's name, model number, electrical rating, and UL label.
- APPROVAL:** Listed as speakers and speaker-strobes when used with separately listed compatible fire alarm control units. Suitable for indoor use, dry and damp environments. Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.

02-27-17 gt



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Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- Updated Modern Aesthetics
- Small profile devices for Horns and Horn Strobes
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Mounting plate for all standard and all compact wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectAlert Advance devices
- Compatible with MDL3 sync module
- Listed for wall mounting only

Agency Listings



The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and compact devices, and plain, FIRE, and FUEGO-printed devices, System Sensor L-Series can meet virtually any application requirement.

The L-Series line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, the L-Series utilizes a universal mounting plate for all models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

L-Series Specifications

Architect/Engineer Specifications

General

L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1 7/8-inch back box, 4 x 4 x 1 1/2-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2 x 4 x 1 7/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard models and a separate universal mounting plate shall be used for mounting wall compact models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

Strobe

The strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectraAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 1/16 x 4 1/16 x 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC or regulated 24 DC/FWR ^{1,2}
Operating Voltage Range	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6" L x 4.7" W x 1.91" D (143 mm L x 119 mm W x 49 mm D)
Compact Wall-Mount Dimensions (including lens)	5.26" L x 3.46" W x 1.91" D (133 mm L x 88 mm W x 49 mm D)
Horn Dimensions	5.6" L x 4.7" W x 1.25" D (143 mm L x 119 mm W x 32 mm D)
Compact Horn Dimensions	5.25" L x 3.45" W x 1.25" D (133mm L x 88mm W x 32mm D)

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

2. Strobe products will operate at 12 V nominal only for 15 cd and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)				
Candela Range	Candela	8-17.5 Volts		
		DC	16-33 Volts DC	FWR
Candela Range	15	88	43	60
	30	143	63	83
	75	N/A	107	136
	95	N/A	121	155
	110	N/A	148	179
	135	N/A	172	209
	185	N/A	222	257

UL Max. Horn Current Draw (mA RMS)				
Sound Pattern	dB	8-17.5 Volts		
		DC	16-33 Volts DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

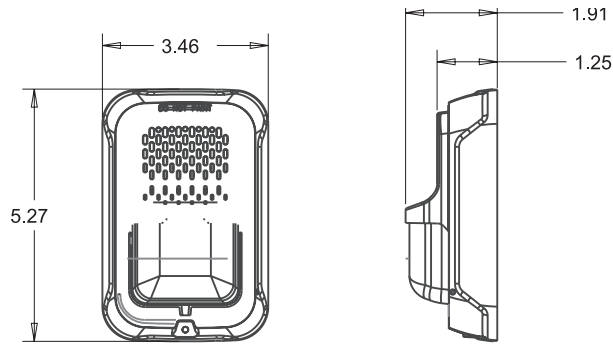
UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Candela Range (15-115 cd)										
DC Input	8-17.5 Volts		16-33 Volts							
	15cd	30cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd	
Temporal High	98	158	54	74	121	142	162	196	245	
Temporal Low	93	154	44	65	111	133	157	184	235	
Non-Temporal High	106	166	73	94	139	160	182	211	262	
Non-Temporal Low	93	156	51	71	119	139	162	190	239	
3.1K Temporal High	93	156	53	73	119	140	164	190	242	
3.1K Temporal Low	91	154	45	66	112	133	160	185	235	
3.1K Non-Temporal High	99	162	69	90	135	157	175	208	261	
3.1K Non-Temporal Low	93	156	52	72	119	138	162	192	242	
16-33 Volts										
FWR Input	15cd	30cd	75cd	95cd	110cd	135cd	185cd			
Temporal High	83	107	156	177	198	234	287			
Temporal Low	68	91	145	165	185	223	271			
Non-Temporal High	111	135	185	207	230	264	316			
Non-Temporal Low	79	104	157	175	197	235	283			
3.1K Temporal High	81	105	155	177	196	234	284			
3.1K Temporal Low	68	90	145	166	186	222	276			
3.1K Non-Temporal High	104	131	177	204	230	264	326			
3.1K Non-Temporal Low	77	102	156	177	199	234	291			

Horn Tones and Sound Output Data

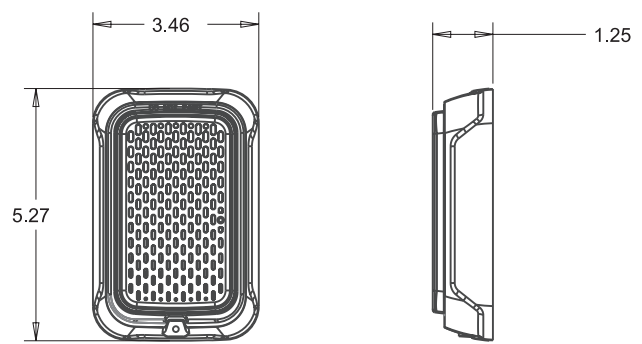
Horn and Horn Strobe Output (dBA)					
Switch Position	Sound Pattern	dB	8-17.5 Volts		FWR
			DC	16-33 Volts DC	
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83
9*	Coded	High	85	90	90
10*	3.1 KHz Coded	High	84	89	89

* Settings 9 and 10 are not available on the 2-wire horn strobes.

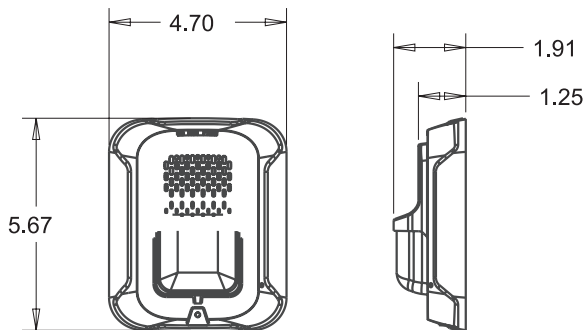
L-Series Dimensions



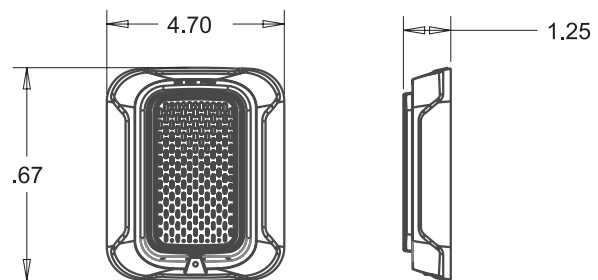
Compact Strobe / Horn Strobe



Compact Horn



Strobe / Horn Strobe



Horn

L-Series Ordering Information

Model	Description
Wall Horn Strobes	
P2RL	2-Wire, Horn Strobe, Red
P2WL	2-Wire, Horn Strobe, White
P2GRL	2-Wire, Compact Horn Strobe, Red
P2GWL	2-Wire, Compact Horn Strobe, White
P2RL-P	2-Wire, Horn Strobe, Red, Plain
P2WL-P	2-Wire, Horn Strobe, White, Plain
P2RL-SP	2-Wire, Horn Strobe, Red, FUEGO
P2WL-SP	2-Wire, Horn Strobe, White, FUEGO
Wall Strobes	
SRL	Strobe, Red
SWL	Strobe, White
SGRL	Compact Strobe, Red
SGWL	Compact Strobe, White
SRL-P	Strobe, Red, Plain
SWL-P	Strobe, White, Plain
SRL-SP	Strobe, Red, FUEGO
SWL-CLR-ALERT	Strobe, White, ALERT

Model	Description
Horns	
HRL	Horn, Red
HWL	Horn, White
HGRL	Compact Horn, Red
HGWL	Compact Horn, White
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White

Notes:

All -P models have a plain housing (no "FIRE" marking on cover)
 All -SP models have "FUEGO" marking on cover
 All -ALERT models have "ALERT" marking on cover



3825 Ohio Avenue • St. Charles, IL 60174
 Phone: 800-SENSOR2 • Fax: 630-377-6495
www.systemsensor.com

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 for current product information, including the latest version of this data sheet.
 AVDS86503 • 03/17

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7125-1653:0504

Page 1 of 2

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: Vladimir.Kireyev@honeywell.com

DESIGN: System Sensor Indoor 2-wire Models:
SRL, SWL, SGRL, SGWL, SRL-P SWL-P, SRL-SP, SWL-CLR-ALERT and SWL-ALERT
Wall Strobes;
SCRL, SCWL and SCWL-CLR-ALERT Ceiling Strobes.

Wall Bezel Parts:

BZR-F, BZR-AL, BZR-AG, BZR-EV, BZR-P, BZR-SP, BZR-PG,
BZW-F, BZW-AL, BZW-AG, BZW-EV, BZW-P, BZW-SP, BZW-PG,
BZGR-F, BZGR-AL, BZGR-AG, BZGR-EV, BZGR-P, BZGR-SP, BZGR-PG,
BZGW-F, BZGW-AL, BZGW-AG, BZGW-EV, BZGW-P, BZGW-SP and BZGW-PG,

Ceiling Bezel Parts:

BZRC-F, BZRC-AL, BZRC-AG, BZRC-EV, BZRC-P, BZRC-SP, BZRC-PG,
BZWC-F, BZWC-AL, BZWC-AG, BZWC-EV, BZWC-P, BZWC-SP and BZWC-PG.

Color Lens:

LENS-A2, LENS-B2, LENS-G2, LENS-R2, LENS-AC2, LENS-BC2, LENS-GC2 and LENS-RC2.

Wall Trim Rings:

TR2 and TR2W

Ceiling Trim Rings:

TRC2 and TRC2W.

Wall Surface Mounted Back Boxes:

SBBRL, SBBGRL, SBBWL and SBBGWL,

Ceiling Surface Mounted Back Boxes:

SBBCRL and SBBCWL

Refer to listee's data sheet for detailed product description and operational considerations.

02-14-17 gt



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **February 16, 2017**

Listing Expires **June 30, 2017**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division

- RATING:** Regulated 12 VDC setting: 8-17.5 VDC
Regulated 24 VDC/fwr setting: 16-33 VDC
- INSTALLATION:** In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.
- MARKING:** Listee's name, model number, electrical rating, and UL label.
- APPROVAL:** Listed as two wire strobe units used for synchronous application when used with separately listed compatible fire alarm control units. Suitable for indoor use, vertical wall or horizontal ceiling mounted. Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.

02-14-17 gt



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Date Issued: **February 16, 2017**

Listing Expires **June 30, 2017**

Authorized By: **DAVID CASTILLO**, Program Coordinator
Fire Engineering Division



by Honeywell

SpectrAlert® Advance Outdoor Notification Appliances

Description

The SpectrAlert® Advance series offers the broadest line of outdoor speakers and speaker strobes in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, virtually every application is covered. SpectrAlert Advance outdoor speakers and speaker strobes offer reliable operation over the entire temperature range of -40°F to 151°F. They may be used indoors or outdoors in wet or dry applications. In addition, these speakers provide a broad frequency response range and low harmonic distortion to provide an accurate and intelligible broadcast of evacuation messages. High sound pressure level at all tap settings ensures that messages are clearly heard.

The plug-in design allows the installer to pre-wire mounting plates and dress the wires before plugging in the speakers to help reduce ground faults. This design also allows faster installations with instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and field selectable candela settings for wall and ceiling speaker strobes.

The weatherproof back boxes have plastic and metal versions. They are designed to accommodate in-and-out wiring for daisy chaining outdoor devices. The plastic weatherproof back boxes are shipped with the product feature removable side flanges and have improved resistance to salt water corrosion. The screw hole knockouts, located on the back of the weatherproof back box, eliminate the need to drill holes for screw-in mounting. Both weatherproof back boxes are available with 3/4 inch top and bottom conduit entries and 3/4 inch knock-outs at the back. Included with each back box is a screw-in NPT plug with an O-ring gasket for a watertight seal. Metal back boxes are available separately.

Outdoor Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers



SpectrAlert Advance

Features

- Plug-in design
- Electrical compatibility with existing SpectrAlert products
- Shorting spring on mounting plate tests continuity before installation
- Rotary switch simplifies field selection of speaker voltage and power settings
- Universal mounting plate for wall- and ceiling-mount units
- Weatherproof per NEMA 4x, IP56
- Compatible with System Sensor synchronization protocol
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field selectable candela settings on wall and ceiling units
- Ceiling and wall mount application

An ISO 9000-2000 Company



SpectrAlert® is a registered trademarks of Honeywell International Inc.
UL® is a registered trademark of Underwriter's Laboratories Inc.

GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

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9021-60345 Rev. A page 1 of 3

Architectural/Engineering Specifications

General

SpectrAlert Advance outdoor speaker and speaker strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Outdoor SpectrAlert Advance products shall operate between -40°F and 151°F from a regulated DC, or full-wave rectified, unfiltered power supply.

Speaker

The Speaker shall be a System Sensor SpectrAlert Advance Model _____ dual voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. Speaker shall be Listed to UL® Standard S4048 for outdoor fire protective signaling systems. Speaker shall have a frequency range of 400 to 4000 Hz and shall have an operating temperature from -40°F to 150.8°F. Speaker shall have power taps and wattage settings which are selected by rotary switches. The speaker must be installed with its weatherproof backbox in order to remain outdoor approved per UL listing S4048. The speaker shall be suitable for use in air handling spaces, as well as wet environments.

Speaker Strobe Combination

The Speaker Strobe shall be a System Sensor Model _____ listed to UL 1638 and UL 1480 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms, and shall have a frequency range of 400 to 4000 Hz. Speaker shall have power taps that are selected by rotary switch. The strobe shall consist of a xenon flash tube with associated lens/reflector system and operate on either 12V or 24V. The strobe shall also feature selectable candela output, providing options for 15 or 15/75 candela when operating on 12V and 15, 15/75, 30, 75, 110, 115, 135, 150, 177 or 185 when operating on 24V. The strobe shall comply with the Americans with Disabilities Act requirement for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The speaker strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The speaker strobe shall be suitable for use in wet environments.

Sound Output				
UL Reverberant (dBA@10 ft)	2 W	1 W	1/2 W	1/4 W
Outdoor Speaker	90	87	84	81
Outdoor Speaker/Speaker Strobe	89	86	83	80

UL Maximum Strobe Current Draw (mA RMS)					
	Candela	8 to 17.5 Volts		16 to 33 Volts	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	vmvm95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Candela Derating

NOTE: For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)	
Listed Candela	Candela Rating at -40 F
15	Do not use below 32 F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

GAMEWELL-FCI

Specifications

Physical Specifications

Operating Temperature:	-40°F to 151°F (-40°C to 66°C)
Wall-Mount Dimensions:	
SPS Speaker Strobe:	6.0"L x 5.0"W x 4.9"D (including lens and speaker)
SP Speaker:	6.0"L x 5.0"W x 2.9"D
Ceiling Mount Dimensions:	
SPS Speaker Strobe:	6.8"Dia x 4.8"D (including lens and speaker)
SP Speaker:	6.8"L x 2.9"D
Wall-Mount Weatherproof Backbox:	
Dimensions:	6.5"L x 5.5"H x 2.9"D
Ceiling-Mount Weatherproof Backbox:	
Dimensions:	7.2"Dia x 2.9"D

Electrical/Operating Specifications:

Nominal Voltage (speakers):	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (speakers):	50VDC
Strobe Flash Rate:	1 flash per second
Nominal Voltage (Strobes):	Regulated 12VDC/FWR or 24VDC/FWR
Operating Voltage Range (includes fire panels with built-in sync):	8 to 17.5V (12V nominal) or 16 to 33V (24 nominal)
Operating Voltage with MDL Sync Module:	9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)
Frequency Range:	400 to 4000Hz
Power:	¼, ½, 1, 2 watts

Ordering Information

Part Number Description

SPWK:	Wall mount outdoor speaker; white
SPRK:	Wall mount outdoor speaker; red
SPSWK:	Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 100, 115); white
SPSRK:	Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 100, 115); red
SPCWK:	Ceiling mount outdoor speaker; white.
SPSCWK:	Ceiling mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 50, 75, 95, 110, 115); white
SPSCWHK:	Ceiling mount outdoor speaker strobe, selectable candela, high cd (135, 150, 177, 185); white

Accessories

MWBB:	Wall, metal weatherproof backbox; red
MWBBW:	Wall, metal weatherproof backbox; white
MWBBCW:	Ceiling, metal weatherproof backbox; white
PWBB:	Wall, plastic weatherproof backbox; red
PWBBW:	Wall, plastic weatherproof backbox; white
PWBBCW:	Ceiling, plastic weatherproof backbox; white

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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7320-1653:0201

Page 1 of 1

CATEGORY: 7320 -- SPEAKERS

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174

Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309

Email: Vladimir.Kireyev@honeywell.com

DESIGN: Models SPR,SPW,SPRV, and SPWV SpectrAlert Speakers - Rectangular enclosure.
Models SPCW, SPCR, SPCWV, and SPCRV SpectrAlert Speakers with round enclosure.
Models SPSR, SPSRH, SPSW, SPSW-ALERT, SPSW-CLR-ALERT,
*SPSWK-CLR-ALERT, SPSWH, SPSRV, and SPSWV SpectrAlert Speaker/Strobe with rectangular enclosure. Models SPSCR, SPSCRH, SPSCW, *SPSCWK-CLR-ALERT, SPSCWH, SPSCRV, SPSCRVH, SPSCWV, and SPSCWVH SpectrAlert Speaker/Strobe with round enclosure. Model SPSCW-CLR-ALERT Speaker/Strobe. Model SPSW-ALERT has amber lens and is intended for non-fire use.

All models identified are intended for indoor use mounted on the wall or ceiling. Models with a "K" in the suffix are suitable for indoor or outdoor use with an operating temperature rating of -40°C to +66°C (-40°F to +151°F) and have a NEMA 4X enclosure rating when used with models PWBB, PWBBW (wall) or the model PWBBCW (ceiling) plastic weatherproof back boxes or with Model MWBBW (Wall), MWBB (Wall) or MWBBCW (Ceiling) metal weatherproof back boxes. Models with a " P" in the suffix have plain housings with no lettering on the enclosure. Models not containing " - P", in the suffix have English lettering reading "FIRE" on the housing. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: Nominal Voltage: 25 Vrms or 70 Vrms
Power Settings: ¼, ½, 1, 2 Watts
Frequency Range: 400 - 4000 Hz

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as speaker/strobes when used with separately listed compatible fire alarm control units. Suitable for wall or ceiling mount.
These speaker/strobes do not generate a distinctive three-pulse temporal code pattern (for total evacuation) as required per NFPA 72, 2010 edition. If required, the appliances must be used with a fire alarm control unit that can generate the temporal pattern signal.

*Corrected 02-06-12 bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2017**

Listing Expires **June 30, 2018**

Authorized By: **DAVID CASTILLO, Program Coordinator**
Fire Engineering Division



by Honeywell

Velociti[®] Series

AMM-4F

Description

The Gamewell-FCI Velociti[®] Series, addressable monitor module (AMM-4F) features a single Style D, Class A initiating device circuit. It may also be configured as a Style B, Class B initiating circuit with end-of-line resistor. This module provides an address for any device or group of devices connected to this circuit. Any alarm initiating devices with normally open (N.O.) dry contacts, such as heat detectors, linear heat detection devices, 4-wire projected beam smoke detectors, 4-wire smoke detectors, water flow switches, tamper switches, manual stations, etc. may be installed in this circuit.

The Velociti[®] Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The AMM-4F module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable control panel. The initiating circuit of the AMM-4F has a maximum line resistance of 40 ohms, allowing the module to accommodate a number of initiating devices at a distance from the module. The AMM-4F is designed to mount in a 4" square junction box 2 1/8" deep.

The initiating device circuit of the AMM-4F can support a maximum line resistance of up to 40 ohms allowing the use of linear heat detection devices.

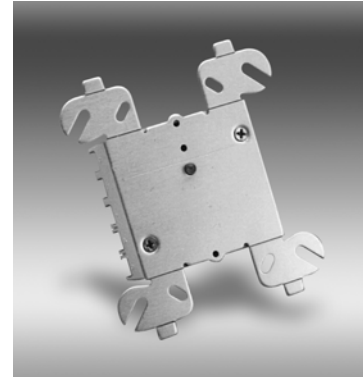
Ordering Information

Model Description

AMM-4F Addressable monitor module, single circuit, Style D, Class A or Style BC/A and B

Velociti[®] and E3 Series[®] are registered trademarks of Honeywell International Inc.

Addressable Monitor Module



AMM-4F

Features

- Compact size allows easy installation
- Class A, Style D, or Class B, Style B initiating circuit
- Visual rotary, decimal switch addressing (01-159)
- 40 ohm line resistance for each initiating device circuit
- Accommodates any N/O dry contact device
- Bicolor LEDs flash green whenever the module is addressed, and light steady red on alarm*

*Note: Only the red LED is operative in panels that do not operate in Velociti[®] mode.

Specifications

Supervisory current:	.000375 amps. (LED flashing)
Alarm current:	.005 amps. (LED lit)
Operating temperature:	32° to 120° F (0° to 49° C)
Relative humidity:	10 to 93% (non-condensing)
End-of-line resistor:	47K ohms
Dimensions:	4 1/2" H x 4" W x 1 1/4" D (11.4 x 10.2 x 3.2 cm)

SIGNALING



LISTED S1949



APPROVED 3023594

MEA Approved



227-03-E Vol. IV 7300-1703:0102



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9020-0624 Rev. E page 1 of 1

Description

The Gamewell-FCI Velociti® Series, addressable output relay control module (AOM-2RF) allows a Gamewell-FCI analog addressable fire alarm control panel to switch discrete relay contacts by code command. The relay provides two isolated sets of Form-C contacts which transfer simultaneously. Circuit connections to the relay contacts are not supervised by the module.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the SLC devices and certain Gamewell-FCI analog addressable fire alarm control panels. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net result produces a superior response speed up to five times greater than earlier designs.

The AOM-2RF Module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable fire alarm control panel. The module contains a panel controlled LED. The AOM-2RF is designed to mount in a 4" (10.16 cm) square junction box 2 1/8" (5.53 cm) deep.

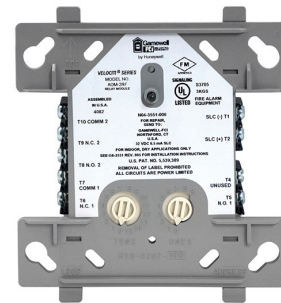
Table 1 lists the relay contact ratings.

Current Rating	Maximum Voltage	Load Description	Application
3A	30 VDC	Resistive	Non-Coded
2A	30 VDC	Resistive	Coded
0.9A	110 VDC	Resistive	Non-Coded
0.5A	125 VAC	Resistive	Non-Coded
0.5A	30 VDC	Inductive (L/R=5ms)	Coded
1A	30 VDC	Inductive (L/R=2ms)	Coded
0.5A	125 VAC	Inductive (PF=.35)	Non-Coded
0.7A	75 VAC	Inductive	Non-Coded

Table 1: Relay Contact Ratings

UL® is a registered trademark of Underwriter's Laboratories Inc.
Velociti® Series is a registered trademark of Honeywell International Inc.

Addressable Output Relay Control Module



AOM-2RF

Features

- Listed under UL® Standard 864.
- Offers two sets of Form "C" contacts.
- Provides visual rotary, decimal switch addressing (01-159).
- Includes a bicolor LED that flashes green whenever the module is addressed, and lights steady red upon activation.*
- Designed as a compact size to allow easy installation.

Note: Only the red LED is operative in panels that do not operate in Velociti® mode.

Specifications

- Supervisory current:** .000375 amps.
- Alarm current:** .0065 amps.
- Operating temperature:** 32° to 120° F (0° to 49° C)
- Relative humidity:** 10 to 93% relative humidity (non-condensing)
- Dimensions:** 4 1/2" H x 4" W x 1 1/4" (11.4 x 10.2 x 3.2 cm)

Ordering Information

Part Number	Description
AOM-2RF	Addressable output relay control module



GAMEWELL-FCI

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Technical Data Sheet

Fire Alarm Cables



2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER:	60991B
DESCRIPTION:	16/2 Solid bare copper conductors, unshielded with an overall jacket.
NEC RATING:	FPLP, NEC Article 760
APPROVALS:	(UL) Listed
APPLICATION:	Indoor within ducts, plenums, and other spaces used for environmental air for (Audio Circuits, Control Circuits, Initiating Circuits, Notification Circuits)

Construction Parameters:

Conductor	16 AWG Bare Copper
Stranding	Solid
Insulation Material	PVC
Insulation Thickness	0.008" Nom.
Number of Conductors	2
Shield	None
Drain	None
Jacket Material	PVC
Jacket Thickness	0.015" Nom.
Overall Cable Diameter	0.161" Nom.
Approximate Cable Weight	25 Lbs/1M' Nom.
Flame Rating	NFPA- 262 Flame Test

Electrical & Environmental Properties:

Temperature Rating	-10deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	32 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	4.1 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Red, Blue, Orange, White, Yellow
RoHS Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	62.4 lbs.
Min. Bend Radius (Install)	1.6"



Specification Issue Date: 7/06

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The Jacket is sequentially footmarked.
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Technical Data Sheet

Fire Alarm Cables

WEST PENN WIRE



2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER:	60992B
DESCRIPTION:	14/2 Solid bare copper conductors, shielded with an overall jacket.
NEC RATING:	FPLP, NEC Article 760
APPROVALS:	(UL) Listed
APPLICATION:	Indoor within ducts, plenums, and other spaces used for environmental air for (Audio Circuits, Control Circuits, Initiating Circuits, Notification Circuits)

Construction Parameters:

Conductor	14 AWG Bare Copper
Stranding	Solid
Insulation Material	PVC
Insulation Thickness	0.010" Nom.
Number of Conductors	2
Shield	100% Aluminum Polyester Foil
Drain	Stranded Tinned Copper
Jacket Material	PVC
Jacket Thickness	0.015" Nom.
Overall Cable Diameter	0.202" Nom.
Approximate Cable Weight	39 Lbs/1M' Nom.
Flame Rating	NFPA- 262 Flame Test

Electrical & Environmental Properties:

Temperature Rating	-10deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	84 pf/ft Nom.
Capacitance Between Conductors to Shield @ 1 KHz	151 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	2.6 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Red
RoHS Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	113.4 lbs.
Min. Bend Radius (Install)	2.1"



Specification Issue Date: 7/06

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Technical Data Sheet

Fire Alarm Cables

WEST PENN WIRE



2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER:	60995B
DESCRIPTION:	12/2 Solid bare copper conductors, unshielded with an overall jacket.
NEC RATING:	FPLP, NEC Article 760
APPROVALS:	(UL) Listed
APPLICATION:	Indoor within ducts, plenums, and other spaces used for environmental air for (Audio Circuits, Control Circuits, Initiating Circuits, Notification Circuits)

Construction Parameters:

Conductor	12 AWG Bare Copper
Stranding	Solid
Insulation Material	PVC
Insulation Thickness	0.010" Nom.
Number of Conductors	2
Shield	None
Drain	None
Jacket Material	PVC
Jacket Thickness	0.015" Nom.
Overall Cable Diameter	0.239" Nom.
Approximate Cable Weight	53 Lbs/1M' Nom.
Flame Rating	NFPA- 262 Flame Test

Electrical & Environmental Properties:

Temperature Rating	-10deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	44 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	1.8 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Red
RoHS Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	158 lbs.
Min. Bend Radius (Install)	2.25"

Specification Issue Date: 7/06

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Technical Data Sheet

Aquaseal® Fire-Alarm Cables

WEST PENN WIRE



2833 West Chestnut Street
 Washington, PA 15301
 Toll Free: (800) 245-4964
 Fax: (724) 222-6420
 www.westpenn-wpw.com



PART NUMBER:	AQ225
DESCRIPTION:	16/2 Stranded bare copper conductors, overall unshielded with Aquaseal tape and overall jacket.
NEC RATING:	FPL – PLTC, CL3 NEC Article 760 And 725
APPROVALS:	(UL) Listed - Direct Burial
APPLICATION:	Materials suitable for outdoor use, and indoor trays, allows a variety of uses for (Low voltage industrial process control circuits, Power-Limited circuits, Power-Limited fire alarm circuits, Power-Limited tray cable PLTC)

Construction Parameters:

Conductor	16 AWG Bare Copper
Stranding	7x24
Insulation Material	PVC with Nylon
Insulation Thickness	PVC 0.015" Nom. Nylon .005" Nom.
Number of Conductors	2 (1 Pair)
Shield	None
Drain	None
Water-Blocking Tape	2 Ply water swellable tape
Jacket Material	Sunlight/ Moisture Resistant PVC
Jacket Thickness	0.040" Nom.
Overall Cable Diameter	0.295" Nom.
Approximate Cable Weight	48 Lbs/1M' Nom.
Flame Rating	UL 1685 Vertical Tray

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 90deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	28 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	4.2 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Black
RoHS Compliant	--
TIA455-82B Water Infiltration Test Compliant	Yes
UL 444 & 13 Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	54 lbs.
Min. Bend Radius (Install)	2.9"

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Technical Data Sheet

Aquaseal® Fire-Alarm Cables

WEST PENN WIRE

2833 West Chestnut Street
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 Toll Free: (800) 245-4964
 Fax: (724) 222-6420
 www.westpenn-wpw.com



PART NUMBER:	AQ294
DESCRIPTION:	16/2 Stranded bare copper conductors, overall shield with Aquaseal tape and overall jacket.
NEC RATING:	FPL – PLTC, CL3 NEC Article 760 And 725
APPROVALS:	(UL) Listed – Direct Burial
APPLICATION:	Materials suitable for outdoor use, and indoor trays, allows a variety of uses for (Low voltage industrial process control circuits, Power-Limited circuits, Power-Limited fire alarm circuits, Power-Limited tray cable PLTC)

Construction Parameters:

Conductor	16 AWG Bare Copper
Stranding	7x24
Insulation Material	PVC with Nylon
Insulation Thickness	PVC 0.015" Nom. Nylon .005" Nom.
Number of Conductors	2 (1 Pair)
Shield	100% Aluminum Polyester Foil
Drain	Stranded Tinned Copper
Water-Blocking Tape	2 Ply water swellable tape
Jacket Material	Sunlight/ Moisture Resistant PVC
Jacket Thickness	0.040" Nom.
Overall Cable Diameter	0.328" Nom.
Approximate Cable Weight	58 Lbs/1M' Nom.
Flame Rating	UL 1685 Vertical Tray

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 90deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	37 pf/ft Nom.
Capacitance Between Conductors to Shield @ 1 KHz	67 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	6.2 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Black
RoHS Compliant	--
TIA455-82B Water Infiltration Test Compliant	Yes
UL 444 & 13 Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	69 lbs.
Min. Bend Radius (Install)	3.2"

Specification Issue Date: 7/06

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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7165-1703:0176 Page 1 of 1

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Brian Reynolds (203) 484-6124 Fax (203) 484-7309
Email: Brian.Reynolds2@honeywell.com

DESIGN: Model S3 fire alarm control unit. Automatic, manual, waterflow, sprinkler supervisory, local, remote station (PPU), and central station (PPU) services. System components:

SLP-E3; Smart Loop Panel Main Board Subassembly
LCD-SLP; Liquid Crystal Display- Smart Loop Panel Subassembly
FML-E3; Fiber Optic Multi Mode Board
FSL-E3; Fiber Optic Single Model Board
SLC-PM; Signaling Line Circuit for System Sensor Devices
SLC95-PM; Signaling Line Circuit for Apollo Devices
SLP-BB; Basic System Enclosure - Backbox, Door, Mounting Plate

Refer to the listee's data sheet for additional detailed product description and operational considerations

RATING: 120 V, 60 Hz, 2.75 A
240 V, 50/60 Hz, 1.4 A

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as fire alarm control units for use with separately listed compatible initiating and indicating devices. Refer to manufacturer's installation manual for details.

NOTE: For Fire Alarm Verification feature (delay of fire alarm), the retard/reset/restart period shall not exceed 30 seconds.

09-23-13 gt



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2015**

Listing Expires **June 30, 2016**

Authorized By: **JAMES PARSEGIAN, Program Coordinator**
Fire Engineering Division

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site-clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- E. Soil Stripping, Handling, and Stockpiling: Perform only when topsoil is dry or slightly moist.

PART 2 - EXECUTION

2.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance.
- B. Protect remaining trees and shrubs from damage and maintain vegetation. Employ a licensed arborist to repair tree and shrub damage. Restore damaged vegetation. Replace damaged trees that cannot be restored to full growth, as determined by arborist.
- C. Do not store materials or equipment or permit excavation within drip line of remaining trees.
- D. Protect site improvements to remain from damage. Restore damaged improvements to condition existing before start of site clearing.
- E. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed or abandoned in place.

2.2 SITE CLEARING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
 - 1. Chip brush, branches, and trees and dispose of off-site.
- B. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

- C. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 - 1. Neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement.
- D. Dispose of waste materials and excess topsoil, off Owner's property. Burning waste materials on-site is not permitted.

END OF SECTION 311000

New Fire Alarm System

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product data and job mix designs.
- B. Environmental Limitations: Do not apply asphalt materials if subgrade is excessively damp, if rain is expected before time required for adequate cure, or if the following conditions are not met:
 - 1. Tack Coat: Minimum surface temperature of 60 deg F.
 - 2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
 - 3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

PART 2 - PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Comply with requirements of state department of transportation for asphalt paving work.

2.2 MATERIALS

- A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and designed according to procedures in AI MS-2.
- B. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.
- C. Pavement-Marking Paint: MPI #32 alkyd traffic-marking paint.

PART 3 - EXECUTION

3.1 PAVING

- A. Tack coat existing asphalt or concrete surfaces and allow tack coat to cure undisturbed.
- B. Place hot-mix asphalt to required grade, cross section, and thickness. Promptly correct surface irregularities in paving course.
 - 1. Spread mix at minimum temperature of 250 deg F.

New Fire Alarm System

- C. Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers. Complete compaction before mix temperature cools to 185 deg F.
- D. Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness.
- E. Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to 92 percent of reference maximum theoretical density according to ASTM D 2041.
- F. Finish-roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- G. Remove and restore paved areas that are defective or contaminated.
- H. Apply pavement-marking paint with mechanical equipment to a minimum wet film thickness of 15 mils.

END OF SECTION 321216

New Fire Alarm System

SECTION 321313 - CONCRETE PAVING

PART 1 - PRODUCTS

1.1 CONCRETE PAVING

- A. Comply with ACI 301 unless otherwise indicated.

1.2 MATERIALS

- A. Welded Wire Reinforcement: ASTM A 185, flat sheets.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- C. Portland Cement: ASTM C 150, Type I or II, gray.
 - 1. Fly Ash: ASTM C 618, Type C or F.
- D. Normal-Weight Aggregates: ASTM C 33, uniformly graded. Provide aggregates from a single source.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: ASTM C 494. Calcium chloride shall not be used.
- G. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork in preformed strips.

1.3 CONCRETE MIXTURES

- A. Proportion normal-weight concrete mixes to provide the following properties:
 - 1. Compressive Strength (28 Days): 3000 psi.
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
 - 3. Slump Limit: 4 inches plus or minus 1 inch.

PART 2 - EXECUTION

2.1 PAVING

- A. Accurately position and support reinforcement, and secure against displacement.

New Fire Alarm System

- B. Locate and install contraction, construction, isolation, and expansion joints as indicated or required.
- C. Place concrete in a continuous operation within planned joints or sections. Do not add water to adjust slump.
- D. Float surfaces to true planes within a tolerance of 1/4 inch in 10 feet and medium-to-fine-textured broom finish.
- E. Tool edges and joints to a radius of 3/8 inch.
- F. Begin curing after finishing concrete. Apply membrane-forming curing compound to concrete.
- G. Allow concrete paving to cure for a minimum of 28 days and be dry before starting pavement marking.
- H. Remove and replace concrete paving that is broken, damaged, or defective. Remove work in complete sections from joint to joint unless otherwise approved by Architect.
- I. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days.

END OF SECTION 321313