



STAFF REPORT

City Council

Meeting Date:

7/14/2026

Staff Report Number:

26-124-CC

Consent Calendar:

Award a construction contract to SCC Electric, Inc. for the Belle Haven Child Development Center Electrification project, approve an appropriation from the unassigned funds in the General Capital fund, and determine these actions are categorically exempt pursuant to California Environmental Quality Act Guideline Section 15301(c) existing facilities

Recommendation

Staff recommends that the City Council award a \$636,500 construction contract to SCC Electric Inc. (SCC) for the Belle Haven Child Development Center Electrification Project (Project) (Attachment A), approve a contingency in the amount of \$70,000 (held by the City), approve an appropriation of \$116,500 from unassigned funds in the General Capital fund, and determine these actions are categorically exempt pursuant to California Environmental Quality Act (CEQA) Guideline Section 15301(c) for existing facilities.

Policy Issues

This Project is consistent with the City's Climate Action Plan (CAP) and the Environmental Justice Element (EJ Element). The CAP outlines six strategies to reduce greenhouse gases, promote sustainability, and achieve zero carbon emissions in Menlo Park by 2030. CAP strategy 5 aims to eliminate fossil fuel use in City operations by 2030. The EJ Element program EJ1.A prioritizes public/capital improvements needed in underserved communities to address climate change.

Background

The Belle Haven Child Development Center (BHCDC) provides child development services for preschoolers. The facility includes five classrooms offering educational preschool programs that make childcare accessible to families of all income levels. While the State of California provides substantial programming funds for the center, the City administers its preschool programs, provides program funding, and is responsible for the physical plant. BHCDC is an excellent candidate for decarbonization upgrades due to the essential community services it provides and given the building's aging infrastructure. In 2023, the site's water heaters were replaced with electric heat pump water heaters through Pacific Gas & Electric's (PG&E) Government energy efficiency program. This spring, a roof-top photovoltaic system was installed through a power purchase agreement. Both these improvements were installed at no up-front costs to the City. In 2025, staff performed an audit of BHCDC and determined that the building's heating, ventilation and air condition (HVAC) system is in need of replacement. Staff also noted aging light fixtures

and kitchen appliances in need of upgrade. Project design was initiated following this effort.

On July 26, 2024, the City was awarded a \$21,308 grant from Peninsula Clean Energy (now WestLight Energy) payable to the City upon Project completion. On March 25, 2025, City Council directed staff to allocate an estimated \$680,000 from the California Energy Commission's communitywide electrification grant (CEC grant) for the Project.

Analysis

The Project will install energy efficient appliances at BHCDK to improve indoor air quality and reduce its carbon footprint. The general scope of work includes the following improvements to the site:

- Replacing five HVAC systems (one for each classroom) with energy efficient models
- Installing new ductwork, sensors, control panels, and other appurtenances for the HVAC system
- Upgrading existing incandescent lighting with light-emitting diode (LED) lighting
- Installing new dishwasher and electric induction stove to replace aging kitchen equipment
- Installing new exterior electrical panel and conduits to power the above improvements

Coordination with stakeholders

Public Works staff coordinated with BHCDK staff during design to minimize disturbance to operations and ensure student safety. Consequently, work will be performed one vacant classroom at a time (a spare room will be converted to a temporary classroom to accommodate this plan). Moreover, noisy work during nap hours will be strictly prohibited. The contractor must also allow continued access to classrooms at all times to ensure drop-off and pick-up schedules are uninterrupted.

Construction bidding

On June 8, staff solicited bids from prospective contractors and seven bids were opened July 2 (Table 1). Although Fuse Services, Inc. had the lowest bid, its proposal was deemed non-responsive upon review by staff and the city attorney. Consequently, SCC was deemed the lowest bidder for the Project. Staff determined SCC to be experienced with projects involving similar work for HVAC and building improvements. SCC was also found to be responsive and responsible per the project agreement and public contract code requirements. Subject to the City Council's award of contract, construction is tentatively scheduled from August to October 2026.

Table 1: Bid results	
Bidder	Bid total
Engineer's estimate	\$600,000
Fuse Services, Inc.	\$580,000
SCC (lowest responsive bidder)	\$636,500
Galaxy Services	\$638,000
S&H Construction, Inc.	\$668,600
Stronger Building Services	\$750,900
MFS Construction	\$899,804
James Day Construction, Inc.	\$917,914

Impact on City Resources

The construction costs (including contingencies, consultant, and staff administrative fees) are detailed in Table 2. The Project is included in the fiscal year 2026-27 Capital Improvement Plan and is funded by the General Capital fund and the CEC grant. There is insufficient funding in CPB025 BHCDC Zero Net Energy Retro Fit project for construction and an appropriation from the unassigned General Capital fund is needed to award this contract. There are sufficient unassigned funds for this request.

Table 2: Construction costs	
Item	Total
Construction subtotal	\$636,500
Contingency (approximately 10%)	\$70,000
Construction administration	\$60,000
Total construction cost	\$766,500
Available funds from CPB025	\$650,000
Appropriation request (General Capital Fund)	\$116,500
Total budget	\$766,500

Table 3 provides a summary of additional anticipated grant funding for Project construction that would offset the General Fund appropriation. An additional \$2.25 million in remaining CEC grant funds is expected to be received in August to assist with the City's decarbonization goals (including the Project improvements). Upon receipt, a portion of this money would be used to reimburse the General Capital Fund and offset the appropriation request. The remaining CEC funds would be allocated to other qualifying decarbonization efforts per the CAP goals.

The Project is also eligible for reimbursement under the WestLight and BayREN Decarbonization Showcase Program (BayREN grant) upon completion of the Project. On April 7, 2025, the City joined the BayREN grant program, which provides funding and technical support to help public buildings decarbonize and serve as a model for other cities. Staff will present the BayREN grant's funding agreement at the Aug. 11 City Council meeting, at which City Council could allocate up to \$100,000 in matching funds to support the Project construction. In total, the Project's General Capital fund budget of \$251,810 (since fiscal year 2025-26) would be reimbursed by these grants upon City Council's approval of the BayREN grant (expected at an August meeting).

Table 3: Grant summary	
Item	Total
Additional CEC funds (will offset appropriation request)	\$116,500
WestLight grant	\$21,308
BayREN grant	\$100,000
Total anticipated grant funds	\$237,808

Environmental Review

This project is categorically exempt pursuant to the CEQA Guidelines Sections 15301(c) for existing facilities.

Public Notice

Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

Attachments

A. Construction contract

Report prepared by:

Michael Fu, Assistant Public Works Director – Engineering

Rachael Londer, Sustainability Manager

Report reviewed by:

Azalea Mitch, Public Works Director

CONSTRUCTION AGREEMENT

City Manager's Office
 701 Laurel St., Menlo Park, CA 94025
 tel 650-330-6620



Agreement #:

**AGREEMENT FOR SERVICES BETWEEN
 THE CITY OF MENLO PARK AND SCC ELECTRIC, INC.**

THIS CONSTRUCTION AGREEMENT ("Contract") is made and entered into this day of _____ ("Execution Date") by and between the CITY OF MENLO PARK, a California municipal corporation, ("City") and SCC ELECTRIC, INC. ("Contractor").

RECITALS

- A. Contractor is a California Corporation duly organized and in good standing in the State of California, License Number 1109026. Contractor represents and warrants that it has the background and experience set forth in the Contractor's responses to the notice inviting bids.
- B. Contractor represents that it is duly licensed by the State of California and has the background, knowledge, experience and expertise to perform the obligations set forth in this Contract.
- C. On Jun. 8, 2026, the City issued a Notice to Contractors inviting bids for the Project. A copy of the Contractor's Bid proposal and List of Subcontractors and Line Items (Exhibit A) is attached herein and incorporated by this reference.
- D. The City desires to retain Contractor as an independent contractor to provide the construction and other services identified in this Contract for the Project upon the terms and conditions contained herein.

AGREEMENT

NOW, THEREFORE, in consideration of performance by the parties of the promises, covenants and conditions contained herein, the parties hereby agree as follows:

- 1. **DEFINITIONS.** Capitalized terms used throughout the Contract Documents shall have the meanings set forth in this Contract and/or the Special Provisions. If there is a conflict between the definitions in this Contract and the Special Provisions, the definitions in this Contract shall prevail.
- 2. **PROJECT.** The project is the construction of Belle Haven Child Development Center Electrification ("Project"). The work includes all labor, materials, equipment, services, permits, licenses and taxes, and all other things necessary for Contractor to perform its obligations and complete the Project, including, without limitation, any Change Orders executed by City and Contractor in accordance with the requirements of the Contract Documents ("Work").

Contractor shall permit City (or its designees) access to the work area, Contractor's shop, or any other facility, to permit inspection of the Work at all times during construction and/or manufacture and fabrication. The granting of any progress payment, and any inspections, reviews, approvals or oral statements by any City representative, or certification by any governmental entity, shall in no way limit Contractor's obligations under the Contract Documents.

3. CONTRACT DOCUMENTS.

3.1 List of Documents. The Contract Documents (sometimes collectively referred to as "Agreement" or "Bid Documents") consist of the following documents which are on file with the Public Works Department and are hereby incorporated by reference.

1. Subcontractors List
2. Change Orders
3. Field Orders
4. Construction Agreement
5. Bidding Addenda
6. Special Provisions
7. Project Plans and Drawings
8. Technical Specifications
9. City Standard Details
10. State of California Department of Transportation Specifications, 2006 Edition (Standard Specifications)
11. Notice to Contractors
12. Contractor's Bid
13. Bidder Certifications, Questionnaire and Statements
14. Reports listed in the Contract Documents
15. City of Menlo Park Waste Management Form, Waste Management Daily Transport Report
16. City of Menlo Park Truck Route Map and Regulations
17. Performance, Payment and Maintenance Bonds

3.2 Order of Precedence. For the purposes of construing, interpreting and resolving inconsistencies between and among the provisions of this Contract, the Contract Documents shall have the order of precedence as set forth in the preceding section. If a claimed inconsistency cannot be resolved through the order of precedence, the City shall have the sole power to decide which document or provision shall govern as may be in the best interests of the City.

4. PERMITS. Contractor, at its sole expense, shall obtain and maintain during the term of this Contract, all appropriate permits, licenses and certificates that may be required in connection with the performance of the Work, including, but not limited to, a City business license.
5. DEPARTMENT OF INDUSTRIAL RELATIONS. Pursuant to Labor Code Section 1771(a), Contractor represents that it and all of its Subcontractors are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Contractor covenants that any additional or substitute Subcontractors will be similarly registered and qualified. This Project is subject to compliance monitoring and enforcement by the DIR. It is the responsibility of the Contractor to ensure all DIR requirements and regulations are met and stay current. For more information, see <http://dir.ca.gov/Public-Works/SB854.html>.
6. TERM. This Contract is effective on the Execution Date set forth in the initial paragraph of this Contract and shall remain in effect until the Project has been satisfactorily completed by Contractor, unless earlier terminated pursuant to the terms of this Contract.
7. TIME OF COMPLETION. Time is of the essence with respect to all time limits set forth in the Contract Documents. Contractor shall commence the Work on the date specified in the City's Notice to Proceed. Contractor shall diligently prosecute the Work to Substantial Completion within 40 working days after the date specified in the City's Notice to Proceed ("Contract Time"). The Contract Time may only be adjusted for extensions of time approved by the City and agreed to by Change Order executed by City and Contractor in accordance with the requirements of the Contract Documents.

8. **COMPENSATION.** The City agrees to compensate Contractor for its satisfactory completion of the Work in compliance with the Contract Documents for the not to exceed amount of six hundred thirty-six thousand five hundred (\$636,500) ("Contract Sum"). Payment shall be as set forth in the Plans, Special Provisions and/or Technical Specifications. The Contract Sum may only be adjusted by Change Orders issued, executed and satisfactorily performed by Contractor in accordance with the requirements of the Contract Documents. The Contract Sum shall be adjusted (upward or downward) only to account for Change Orders. The Contract Sum is and shall be full compensation for all Work performed by Contractor. The Contract Sum shall cover all losses arising out of the nature of the Work or from the elements or any unforeseen difficulties or obstructions which may arise or be encountered in performance of the Work until its Acceptance by the City, all risks connected with the Work and any and all expenses incurred due to the suspension or discontinuance of the Work.

Should the City withhold retention in connection with the Work, Contractor may elect to substitute securities or direct payment to an escrow account, pursuant to Public Contract Code Section 22300 (incorporated herein by this reference).

Contractor shall submit all billings with all necessary invoices or other appropriate evidence of proper performance, after which City shall make payment within thirty (30) days. Upon City's written request, Contractor shall make available to City, its authorized agents, officers, or employees, any and all ledgers, books of accounts, invoices, vouchers, cancelled checks, and other records or documents evidencing or relating to the Work or the expenditures and disbursement charged to City, and all correspondence, internal memoranda, calculations, books and accounts, records documenting its Work under the Agreement, and invoices, payrolls, timecards, records and all other data related to matters covered by the Agreement. Contractor shall furnish to City, its authorized agents, officers, or employees, such other evidence or information as City may require with regard to the Work or any such expenditure or disbursement charged by Contractor.

CONTRACTOR Shall bill each month to City an original invoice for all Services performed and expenses incurred during the preceding month. Each such invoice shall contain the total agreement amount subtracting the invoices paid and billing. By submitting an invoice for payment under this Agreement, CONTRACTOR is certifying compliance with all provisions of the Agreement. CONTRACTOR shall not invoice City for any duplicate Services performed by more than one person. City shall independently review each invoice submitted by CONTRACTOR to determine whether the Services performed and expenses incurred are in compliant with the provisions of this Agreement. City will use its best efforts to cause CONTRACTOR to be paid within thirty (30) days of receipt of CONTRACTOR's correct and undisputed invoice, except as to any charges for Services performed or expenses incurred by CONTRACTOR which are disputed by City, or as provided in Section 6.3. In the event any charges or expenses are in dispute by City, the original invoice shall be returned by City to CONTRACTOR for correction and resubmission. Review and payment by City of any invoice provided by CONTRACTOR shall not constitute waiver of any rights or remedies provided herein or any applicable law. Consultant shall bill the City as services are complete. City reserves the right to deny payment to CONTRACTOR for any invoice submitted is more than 90 days after performance of Services or expenses incurred by CONTRACTOR.

9. **STANDARD OF PERFORMANCE.** As a material inducement to the City to enter into this Contract, Contractor hereby represents and warrants that it has the qualifications and experience necessary to undertake the Work to be provided and the Project to be completed pursuant to this Contract. Contractor agrees that the Work shall be performed by qualified, experienced and well-supervised personnel. The Work performed pursuant to this Contract shall be performed in a manner consistent with the standard of care under California law applicable to those who specialize in providing such

services for projects of the type, scope and complexity of the Project.

10. COMPLIANCE WITH LAW. This Project constitutes a public work within the meaning of California Labor Code Section 1720 et. seq. and is subject to prevailing wage laws. Contractor shall pay prevailing wages to its employees on any contract in excess of \$1,000.00. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the City's Public Works Department and may be obtained from the California Department of Industrial Relations website [<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>]. Contractor shall comply with the 8-hours per day/40 hours per week/overtime/working hours restrictions for all employees, pursuant to the California Labor Code. Contractor and all subcontractors shall keep and maintain accurate employee payroll records for Work performed under the Agreement. The payroll records shall be certified and submitted as required by law, including Labor Code Sections 1771.4 (if applicable) and 1776, including to the Labor Commissioner no less frequently than monthly. Contractor shall comply fully with Labor Code Section 1777.5 in the hiring of apprentices for work relating to this Agreement. The Work performed by Contractor pursuant to this Contract shall be provided in accordance with all ordinances, resolutions, statutes, rules and regulations of the City, and any federal, state or local governmental agency having jurisdiction in effect at the time the work is rendered.

11. REPRESENTATIVE. Charlie Slack is hereby designated as the project manager/superintendent/foreman of Contractor authorized to act on its behalf with respect to the Work specified in this Contract. It is expressly understood that the experience, knowledge, capability and reputation of SCC Electric, Inc. were a substantial inducement for City to enter into this Contract. Therefore, Charlie Slack shall be responsible during the term of this Contract for directing all activities of Contractor and devoting sufficient time to personally supervise the services hereunder. The representative may not be changed by Contractor without the express written approval of the City.

12. LIQUIDATED DAMAGES.

12.1 Entitlement. City and Contractor acknowledge and agree that if Contractor fails to fully and satisfactorily complete the Work within the Contract Time, the City will suffer, as a result of Contractor's failure, substantial damages which are both extremely difficult and impracticable to ascertain. Such damages may include, but are not limited to: (a) loss of public confidence in the City and its contractors; (b) loss of public use of public facilities; and (c) extended disruption to public.

12.2 Daily Amount. City and Contractor have reasonably endeavored, but failed, to ascertain the actual damage that the City will incur if the Contractor fails to achieve Substantial Completion of the Work within the Contract Time. Therefore, the parties agree that in addition to all other damages to which the City may be entitled other than delay damages, in the event the Contractor shall fail to achieve Substantial Completion of the Work within the Contract Time, Contractor shall pay City as liquidated damages the amount of one thousand Dollars (\$1,000) per day for each calendar day after the expiration of the Contract Time until Contractor achieves Substantial Completion of the Work. The liquidated damages amount is not a penalty, but a reasonable estimate of the amount of damages the City will suffer.

Liquidated damages for delay shall cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by City as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from City (for example, delay claims of other contractors, subcontractors, tenants, or

other third-parties), and defense costs thereof. City may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages.

- 12.3 Apportionment. Such liquidated damages shall be subject to reduction for delays for which Contractor is entitled to receive an extension of time under the Contract Documents ("Apportionment"). Such Apportionment shall not be affected by the fact that liquidated damages may not be applied for periods of time during which delays have occurred that are caused by both City and Contractor. It is agreed that the liquidated damages shall not be applied for portions of the Work completed prior to the expiration of the Contract Time.
- 12.4 Exclusive Remedy. City and Contractor acknowledge and agree that this Section 11, Liquidated Damages, shall be the City's only remedy for delay damages caused by the Contractor's failure to achieve Substantial Completion of the Work within the Contract Time.
- 12.5 Damages upon Abandonment. In the event that the Contractor either abandons the Work or is terminated for default in accordance with the provisions of this Contract, City shall have the right, in its sole discretion exercised by written notice issued either before or after Substantial Completion, to elect to either assert or waive its right to liquidated damages. If City elects to assert its right to liquidated damages, then the liquidated damages shall be calculated from expiration of the Contract Time to the date that Substantial Completion of the Work is achieved by the City or its replacement contractor employed to complete Contractor's performance. If City elects to waive its right to liquidated damages, then Contractor shall be liable to the City, in lieu of the liquidated damages, for all actual Losses (as defined in the General Conditions) proximately resulting from Contractor's failure to complete the Work within the Contract Time.
- 12.6 Other Remedies. The parties further acknowledge and agree that the City is entitled to any and all available legal and equitable remedies City may have where City's Losses are caused by any reason other than Contractor's failure to achieve Substantial Completion of the Work within the Contract Time.
13. **INDEPENDENT CONTRACTOR.** Contractor is and shall at all times remain as to the City, a wholly independent contractor and not an agent or employee of the City. Contractor shall receive no premium or enhanced pay for work normally understood as overtime, nor shall Contractor receive holiday pay, sick leave, administrative leave, or pay for any other time not actually worked. The intention of the parties is that Contractor shall not be eligible for benefits and shall receive no compensation from the City except as expressly set forth in this Contract. Contractor shall have no power to incur any debt, obligation, or liability on behalf of the City or otherwise act on behalf of the City as an agent. Neither the City, nor any of its agents shall have control over the conduct of Contractor, any of Contractor's employees, or any subcontractors, except as set forth in this Contract. Contractor shall at no time, or in any manner, represent that it or any of its agents or employees or subcontractors are in any manner employees of the City. Contractor agrees to pay all required taxes on amounts paid to Contractor under this Contract, and to indemnify and hold the City and the harmless from any and all taxes, assessments, penalties, and interest asserted against the City by reason of the independent contractor relationship created by this Contract. Pursuant to Labor Code Sections 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is aware of the provisions of Labor Code Section 3700 that 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 Contractor shall comply with such provisions before commencing the performance of the Work. Contractor further agrees to indemnify and hold the City

harmless from any failure of Contractor and any subconsultants to comply with applicable worker's compensation laws. The contractor shall further agree to indemnify the Town of Atherton (Town), pursuant to the aforementioned terms of this section, for work spanning Valparaiso Avenue.

14. **COMPLIANCE WITH LAWS; CONFLICT OF INTEREST.** Contractor agrees to comply with all applicable federal and state laws, regulations and policies, as amended, including those regarding discrimination, unfair labor practices, anti-kick-back, collusion, and the provisions of the Americans with Disability Act. Contractor shall not engage in unlawful employment discrimination including, but not limited to, discrimination based upon a person's race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, gender, citizenship, sexual orientation, or sexual identity as prohibited by state or federal law. Contractor covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which may be affected by the work to be performed by Consultant under this Contract, or which would conflict in any manner with the performance of its services hereunder. Contractor further covenants that, in performance of this Contract, no person having any such interest shall be employed by it. Contractor, its officers, partners, associates, agents, and employees, shall not make, participate in making, or in any way attempt to use the position afforded them by the Contract Documents to influence any governmental decision in which he or she knows or has reason to know that he or she has a financial interest under applicable state, federal and local conflict of interest regulations. Furthermore, Contractor shall avoid the appearance of having any interest which would conflict in any manner with the performance of the work pursuant to this Contract. Contractor agrees not to accept any employment during the term of this Contract which is or may make Contractor financially interested, as provided in California Government Code Sections 1090 and 87100, in any decision made by the City on any matter in connection with which Contractor has been retained pursuant to this Contract. However, nothing herein shall preclude Contractor from accepting other engagements with the City.

15. INDEMNIFICATION.

- 15.1 To the fullest extent permitted by law, Contractor shall indemnify, defend, with independent counsel approved by the City, and hold harmless the City, and its elective or appointive boards, officers, employees agents and volunteers ("Indemnatee") from and against any and all claims, losses, or liability that may arise out of or result from damages to property or personal injury received by reason of, or in the course of work performed under this Contract due to the acts or omissions of Contractor or Contractor's officers, employees, agents or subcontractors. The indemnification provisions survive completion of the Work or the termination of this Contract. The acceptance of such services shall not operate as a waiver of such right of indemnification. Notwithstanding the foregoing, nothing contained herein shall be construed as obligating Contractor to indemnify any Indemnatee for any claims, losses or liability resulting from the sole or active negligence or willful misconduct of the Indemnatee. Contractor shall pay City for any costs incurred in enforcing this provision. The contractor shall further agree to indemnify the Town of Atherton (Town), pursuant to the aforementioned terms of this section, for work spanning Valparaiso Avenue.

- 15.2 The City does not and shall not waive any rights that they may possess against Contractor because of the acceptance by the City or the deposit with the City of any insurance policy or certificate required pursuant to this Contract. This hold harmless and indemnification provision shall apply regardless of whether or not any insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost or expense.

- 15.3 Pursuant to Public Contract Code Section 9201, the City shall timely notify Contractor upon receipt of any third-party claim relating to the Contract.

16. **ASSIGNABILITY.** The parties agree that the experience and qualifications of Contractor as set forth in the Contractor's Bid are material considerations for the City entering into this Contract. Consultant shall not assign or transfer any interest in this Contract, without the prior written consent of the City, and any attempt by Contractor to do so shall be void and of no effect and a breach of this Contract. For purposes of this section, the sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor or of any general partner or joint venturer or syndicate member of Contractor, if a partnership or joint venture or syndicate or co-tenancy exists, which shall result in changing the control of Contractor, shall be construed as an assignment of this Construction Contract. Control means more than fifty percent (50%) of the voting power of the corporation or other entity.

17. INSURANCE AND BOND REQUIREMENTS.

17.1 Prior to the commencement of any Work, the Contractor shall provide the City with evidence that it has obtained the insurance required by this Section and all bonds, including, but not limited to, payment and performance bonds, required in the Special Provisions. Failure to obtain and maintain the required insurance and bonds to so shall be deemed a material breach of this Contract.

17.2 Insurance Requirements. Contractor shall obtain the following insurance.

- A. **Worker's Compensation and Employer's Liability Insurance:** The CONTRACTOR shall have in effect during the entire life of this Contract workers' compensation and Employer's Liability Insurance providing full statutory coverage. In signing this Contract, the CONTRACTOR makes the following certification, required by Section 18161 of the California Labor Code: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- B. **Commercial General Liability Insurance:** The CONTRACTOR shall take out and maintain during the life of this Contract such Bodily Injury Liability and Property Damage Liability Insurance (Commercial General Liability Insurance) on an occurrence basis as shall protect it while performing work covered by this Contract from any and all claims for damages for bodily injury, including accidental death, as well as claims for property damage which may arise from the CONTRACTOR's operations under this Contract, whether such operations be by CONTRACTOR or by any sub-consultant or by anyone directly or indirectly employed by either of them. The amounts of such insurance shall be not less than two million dollars (\$2,000,000) per occurrence and four million dollars (\$4,000,000) in aggregate, or four million dollars (\$4,000,000) combined single limit bodily injury and property damage for each occurrence. CONTRACTOR shall provide the City with acceptable evidence of coverage, including a copy of all declarations of coverage exclusions.
- C. **Automobile Liability Insurance:** CONTRACTOR shall maintain Automobile Liability Insurance pursuant to this Contract in an amount of not less than one million dollars (\$1,000,000) for each accident combined single limit or not less than one million dollars (\$1,000,000) for any one (1) person, and one million dollars (\$1,000,000) for any one (1) accident, and Three Hundred Thousand Dollars, (\$300,000) property damage.

17.3 CITY and its subsidiary agencies, and their officers, agents, employees and servants shall be named as additional insured on any such policies of Commercial General Liability and Automobile Liability Insurance, (but not for the workers' compensation), which shall also contain a provision that the insurance afforded thereby to the CITY, its subsidiary agencies, and their officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy, and that if the CITY, its subsidiary agencies and their officers and employees have other insurance

against a loss covered by a policy, such other insurance shall be excess insurance only.

17.4 In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, CITY, at its option, may, notwithstanding any other provision of this Contract to the contrary, immediately declare a material breach of this Contract and suspend all further work pursuant to this Contract.

17.5. Before the execution of this Contract, any deductibles or self-insured retentions must be declared to and approved by CITY.

18. **EARTHWORK AND UNDERGROUND FACILITIES.** If the Work involves digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall notify City in writing of any material that Contractor believes may be hazardous waste that is required to be removed in accordance law, subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids, or 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 Documents, pursuant to Section 7104 of the Public Contract Code. For any Work involving trench shoring that costs in excess of \$25,000, Contractor shall submit and City (or a registered civil or structural engineer employed by City) must accept, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches, pursuant to Labor Code Section 6705. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. Consistent with Government Code Section 4215, as between City and Contractor, City will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding.
19. **DEFECTIVE WORK; WARRANTIES.** Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices, all Contract Documents requirements, and all laws, codes, standards, licenses, and permits. Contractor warrants that all materials and equipment shall be new, of suitable grade of their respective kinds for their intended uses, and free from defects. Contractor hereby grants to City for a period of one year following the date of completion its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers. If either prior to completion of the Work, or within one year after completion, any Work (completed or incomplete) is found to violate any of the foregoing warranties (Defective Work), Contractor shall promptly, without cost to City and in accordance with City's written instructions, correct, remove and replace the Defective Work with conforming Work, and correct, remove and replace any damage to other Work or other property resulting therefrom. If Contractor fails to do so, Contractor shall pay all of the City's resulting claims, costs, losses and damages. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, City shall have all rights and remedies granted by law.
20. **SUSPENSION.** The City may, at any time and from time to time, without cause, order Contractor, in writing ("Suspension Order"), to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to an aggregate of fifty percent (50%) of the Contract Time, as City may determine, with such period of suspension to be computed from the date of the Suspension Order. Upon receipt of a Suspension Order, Contractor shall, at City's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of work stoppage. Within the period of the above noted aggregate time, or such extension to that period

as is agreed upon by Contractor and City, City shall either cancel the Suspension Order or delete the work covered by the Suspension Order by issuing a Change Order. If a Suspension Order is canceled or expires, Contractor shall resume and continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. All claims by Contractor against City shall be submitted in writing to City, and shall be governed by Public Contract Code Sections 9204 and 20104 – 20104.6, after which time the one year time period in Government Code Section 911.2 shall be, pursuant to Government Code Section 930.2, reduced to 90 days.

21. **BOOKS AND RECORDS.** Contractor shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Contract in accordance with generally accepted accounting principles and practices consistently applied. City and City's accountants shall be afforded access at all times during normal business hours, to inspect, audit and copy Contractor's records, books, estimates, take-offs, cost reports, ledgers, schedules, correspondence, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to this Project, and Contractor shall preserve these for a period of three years after the later of (i) final payment or (ii) final resolution of all Contract Disputes and other disputes or for such longer period as may be required by law. Contractor's compliance with any request by City pursuant to this Section 18 shall be a condition precedent to filing or maintenance of any legal action or proceeding by Contractor against City and to Contractor's right to receive further payments under the Contract Documents. Any failure by Contractor to provide access to its business records for inspection or copying by City shall be specifically enforceable by issuance of a writ or a provisional or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony.
22. **WAIVER.** Waiver by either party of any breach or violation of any one or more terms or conditions of this Contract shall not be deemed to be a waiver of any other term or condition contained herein or a waiver of any subsequent breach or violation of the same or any other term or condition. Acceptance by the City of the performance of any work by the Contractor shall not be deemed to be a waiver of any term or condition of this Contract. In no event shall the City's making of any payment to Contractor constitute or be construed as a waiver by the City of any breach of this Contract, or any default which may then exist on the part of Contractor, and the making of any such payment by the City shall in no way impair or prejudice any right or remedy available to the City with regard to such breach or default.
23. **DEFAULT.** In the event the City determines, in its sole discretion, that Contractor has failed or refused to perform any of the obligations set forth in the Contract Documents, or is in breach of any provision of the Contract Documents, the City may give written notice of default to Contractor in the manner specified for this giving of notices in this Contract. Except for emergencies, Contractor shall cure any default in performance of its obligations under the Contract Documents within two (2) business days after receipt of written notice. However, if the breach cannot be reasonably cured within such time, Contractor will commence to cure the breach within two (2) days and will diligently and continuously prosecute such cure to completion within a reasonable time, which shall in no event be later than ten (10) days after receipt of such written notice.
24. **CITY RIGHTS AND REMEDIES.**
 - 24.1 Remedies Upon Default. In the event that Contractor fails to cure any default of this Contract within the time period set forth in Section 20, then City may pursue any remedies available under law or equity, including, without limitation, the following: (1) the City may, without terminating the Contract, delete certain portions of the Work, reserving to itself all rights to losses related thereto; (2) the City may, without terminating the Contract, engage others to perform the Work or portion

of the Work that has not been performed by the Contractor and withhold the cost thereof to City from future payments to the Contractor, reserving to itself all rights to Losses related thereto; or (3) the City may, without terminating the Contract and reserving to itself all rights to Losses related thereto, suspend all or any portion of this Construction Contract for as long a period of time as City determines, in its sole discretion, appropriate, in which event City shall have no obligation to adjust the Contract Sum or Contract Time, and shall have no liability to Contractor for damages if City directs Contractor to resume Work; (4) the City may terminate all or any part of this Contract for default, reserving to itself all rights of Losses related thereto; or (5) the City may, without terminating the Contract and reserving to itself all rights to Losses related thereto, exercise its rights under the Performance Bond.

24.2 Additional Provisions. All of City's rights and remedies under this Contract are cumulative, and shall be in addition to those rights and remedies available in law or in equity. Designation in the Contract Documents of certain breaches as material shall not be construed as implying that other breaches not so designated are not material nor shall such designations be construed as limiting City's right to terminate the Contract, or the exercise of its other rights or remedies for default, to only material breaches. City's determination of whether there has been noncompliance with the Contract so as to warrant exercise by City of its rights and remedies for default under the Contract, shall be binding on all parties. No termination or action taken by City after such termination shall prejudice any other rights or remedies of City provided by law or equity or by the Contract Documents upon such termination; and City may proceed against Contractor to recover all liquidated damages and Losses suffered by City.

24.3 Delays by Sureties. Without limitation to any of City's other rights or remedies under the law, City has the right to suspend the performance by Contractor's sureties in the event of any of the following: (1) failure of the sureties to begin Work within a reasonable time in such manner as to insure full compliance with the Contract within the Contract Time; (2) abandonment of the Work; (3) if at any time City is of the opinion the Work is unnecessarily or unreasonably delayed; (4) willful violation of any terms of the Contract; (5) failure to perform according to the Contract Documents; or (6) failure to follow instructions of City for its completion within the Contract Time. City will serve notice of such failure upon the sureties and in the event the sureties neglect or refuse to cure the breach within the time specified in such notice, City shall have the power to suspend the performance or any part thereof of the sureties.

24.4 Damages to the City. The City will be entitled to recovery of all Losses under law or equity in the event of Contractor's default under the Contract Documents. In the event that City's Losses arise from Contractor's default under the Contract Documents, City shall be entitled to withhold monies otherwise payable to Contractor until Final Completion, as defined in the General Conditions, of the Project. If City incurs Losses due to Contractor's default, then the amount of Losses shall be deducted from the amounts withheld. Should the amount withheld exceed the amount deducted, the balance will be paid to Contractor or its designee upon Final Completion of the Project. If the Losses incurred by City exceed the amount withheld, Contractor shall be liable to City for the difference and shall promptly remit same to City.

24.5 Termination of the Contract for Default. Without limitation to any of City's other rights or remedies at law or in equity, and reserving to itself all rights to Losses related thereto, City shall have the right to terminate this Contract, in whole or in part, upon the failure of Contractor to promptly cure any default. City's election to terminate the Contract for default shall be communicated by giving Contractor a written notice of termination in the manner specified for the giving of notices in the Contract. Any notice of termination given to Contractor by City shall be effective immediately, unless otherwise provided therein. Should Contractor be terminated for default, and such

termination is subsequently determined to be wrongful, such termination will be converted to a termination for convenience as provided herein.

24.6 Termination Without Cause. City shall have the option, at its sole discretion and without cause, of terminating this Contract in part or in whole by giving thirty (30) days written notice to Contractor. Contractor agrees to accept such sums as allowed under this Section as its sole and exclusive compensation and waives any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect or incidental damages of any kind.

24.7 Compensation. Following termination without cause and within forty-five (45) days after receipt of a billing from Contractor seeking payment of sums authorized by this Section, City shall pay to Contractor as its sole compensation for performance of the Work the following: (1) the amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor; (2) reasonable costs of Contractor and its Subcontractors and Sub-subcontractors for demobilizing and administering the close-out of its participation in the Project (including, without limitation, all billing and accounting functions, not including attorney or expert fees) for a period of no longer than thirty (30) days after receipt of the notice of termination in an amount not to exceed the daily sum payable to Contractor for Compensable Delays; (3) previously unpaid cost of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work.

CONTRACTOR Shall bill each month to City an original invoice for all Services performed and expenses incurred during the preceding month. Each such invoice shall contain the total agreement amount subtracting the invoices paid and billing. By submitting an invoice for payment under this Agreement, CONTRACTOR is certifying compliance with all provisions of the Agreement. CONTRACTOR shall not invoice City for any duplicate Services performed by more than one person. City shall independently review each invoice submitted by CONTRACTOR to determine whether the Services performed and expenses incurred are in compliant with the provisions of this Agreement. City will use its best efforts to cause CONTRACTOR to be paid within thirty (30) days of receipt of CONTRACTOR's correct and undisputed invoice, except as to any charges for Services performed or expenses incurred by CONTRACTOR which are disputed by City, or as provided in Section 6.3. In the event any charges or expenses are in dispute by City, the original invoice shall be returned by City to CONTRACTOR for correction and resubmission. Review and payment by City of any invoice provided by CONTRACTOR shall not constitute waiver of any rights or remedies provided herein or any applicable law. Consultant shall bill the City as services are complete. City reserves the right to deny payment to CONTRACTOR for any invoice submitted is more than 90 days after performance of Services or expenses incurred by CONTRACTOR.

24.8 Subcontractors. Contractor shall include provisions in all of its subcontracts, purchase orders and other contracts permitting termination for convenience by Contractor on terms that are consistent with this Contract and that afford no greater rights of recovery against Contractor than are afforded to Contractor under this Section.

24.9 Contractor's Duties Upon Termination. Upon receipt of a notice of termination for default or for convenience, Contractor shall, unless the notice directs otherwise, do the following: (1) immediately discontinue the Work to the extent specified in the notice; (2) place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued; (3) provide to City a description, in writing no later than fifteen (15) days after receipt of the notice of termination, of all subcontracts,

purchase orders and contracts that are outstanding, including, without limitation, the terms of the original price, any changes, payments, balance owing, the status of the portion of the Work covered and a copy of the subcontract, purchase order or contract and any written changes, amendments or modifications thereto, together with such other information as City may determine necessary in order to decide whether to accept assignment of or request Contractor to terminate the subcontract, purchase order or contract; (4) promptly assign to City those subcontracts, purchase orders or contracts, or portions thereof, that City elects to accept by assignment and cancel, on the most favorable terms reasonably possible, all subcontracts, purchase orders or contracts, or portions thereof, that City does not elect to accept by assignment; and (5) hereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project Site or in transit thereto.

25. **CONTRACTOR'S RIGHTS AND REMEDIES.** Contractor may terminate this Construction Contract for cause only upon the occurrence of one of the following: (1) the Work is stopped for sixty (60) consecutive days, through no act or fault of Contractor, any subcontractor or any employee or agent of Contractor or any subcontractor, due to issuance of an order of a court or other public authority other than City having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable; or (2) if the City does not make payment of sums that are not in good faith disputed by the City and does not cure such default within ninety (90) days after receipt of notice from Contractor, then upon an additional thirty (30) days' notice to City, Contractor may terminate the Contract.

25.1 **Damages to Contractor.** In the event of termination for cause by Contractor, City shall pay Contractor the sums provided for in Section 21 above. Contractor agrees to accept such sums as its sole and exclusive compensation and agrees to waive any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect and incidental damages, of any kind.

26. **NOTICES.** Any notices or other communications required or permitted to be given under this Contract shall be given in writing by personal delivery, by a recognized courier service, or by U.S. mail, postage prepaid, and return receipt requested, addressed to the respective parties as follows:

To City:
Assistant Public Works Director - Engineering
City of Menlo Park
City Hall, 701 Laurel St.
Menlo Park, CA 94025

To Contractor:

SCC Electric, Inc.
1301 Grant Ave., Suite B
Novato, CA 94945

27. Notice shall be deemed communicated on the earlier of actual receipt or 48 hours after deposit in the U.S. mail, or the date of delivery shown on deliverer's receipt. In the event of any change of address, the moving party is obligated to notify the other party of the change of address in writing within a reasonable period of time.

In addition, copies of all Claims by Contractor under this contract shall be provided to the City Attorney as follows:

To City Attorney:
City Attorney for Menlo Park
Burke, Williams & Sorensen, LLP
181 Third St., Suite 200
San Rafael, CA 94901

All claims shall be delivered personally or sent by certified mail.

28. **NON-DISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY.** In the performance of this Contract, Contractor shall not discriminate against any employee, subcontractor or applicant for employment because of race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition. Contractor will take affirmative action to ensure that employees are treated without regard to race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition.
29. **CONTRACT DOCUMENTS AND PRECEDENCE.** The Contract Documents shall consist of the following documents. In case of inconsistencies between Contract Documents, the documents are listed in order of precedence.
30. **PUBLIC WORKS CLAIMS.** This Contract is subject to Public Contracts Code Section 9204 governing contractor claims. Accordingly, should any clarification, determination, action or inaction by City, Work, or any other event, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor and City will make good faith attempts to resolve informally any and all such issues, claims and/or disputes. Before commencing the Disputed Work, or within seven Days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor shall file a written notice and cost proposal for the Disputed Work with City stating clearly and in detail its objection and reasons for contending the Work or interpretation is outside the requirements of Project Documents. If a written notice and cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice required by this paragraph, Contractor shall waive its rights to further claim on the specific issue.
 - A. City will review Contractor's timely notice and cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Project Documents, it shall so notify City, in writing, within seven Days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. Within 30 Days of receiving the decision, Contractor shall submit its claim in the form specified herein and all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting its position. Contractor's failure to furnish notification within seven Days and all justifying documentation within 30 Days will result in Contractor waiving its right to the subject claim.
 - B. **Claim Format**
 1. A. Contractor shall submit the claim justification in the following format:
 - (a) Cover letter and certification;
 - (b) Summary of claim, including underlying facts, entitlement, schedule analysis, quantum calculations, Project provisions supporting relief;
 - (c) List of documents relating to claim including Specifications, Drawings/Plans clarifications/requests for information, schedules, notices of delay, cost calculations and any others;
 - (d) Chronology of events and correspondence;
 - (e) Analysis of claim merit;
 - (f) Analysis of claim cost; and
 - (g) Attach supporting documents.

C. Required Provisions on Contract Claim Resolution

1. Public Contract Code Section 9204 specifies provisions on resolving contract claims of any size, and Public Contract Code Section 201014, et seq., specifies required provisions on resolving contract claims less than \$375,000. Those statutes constitute a part of this Contract. In the event any other Contract provision violates such statutes, the applicable statute controls.
2. Public Contract Code Section 9204 provides:
 - (a) For the purposes of this section, "Claim" means a separate demand by Contractor for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by City.
 - (b) Procedure:
 - (1) Upon receipt of a Claim the City shall conduct a reasonable review of the Claim and within 45 days, or if City's governing body must approve City's response to the Claim and the governing body has not met within the 45 days then within three (3) days of the governing body's meeting, shall provide Contractor with a written statement identifying what portion of the claim is disputed and what portion is undisputed. Should City take no action on the Claim within 45 days of submission, it shall be deemed denied.
 - (2) If the Contractor disputes City's response to its Claim, including a failure to respond, it may submit via registered mail or certified mail, return receipt requested, a written demand for an informal conference to meet and confer for settlement of the issues in dispute. City shall schedule such a meet and confer conference within 30 days for settlement of the dispute. Within ten (10) days of the meet and confer conference City shall provide Contractor with a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. If the Contractor disputes City's statement it shall inform City and they shall mutually agree to a mediator within 10 business days of the written statement.
 - (3) City shall pay the undisputed portions of the Claim within 60 days of the issuance of a written statement identifying an undisputed portion.
 - (4) Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the claimant sharing the associated costs equally. The City and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.
 - (5) For claims under \$375,000, unless the parties agree otherwise in writing, mediation pursuant to these provisions shall excuse the mediation obligation under Public Contracting Code section 20104.4(a).
 - (6) The parties may mutually agree, in writing, to waive the mediation requirements of this subsection and proceed to the commencement of a civil action.
 - (7) Failure by the City to respond to a Claim from a Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A Claim that is denied by reason of the public entity's failure to have responded to a Claim, or its failure to

otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the claimant.

- (8) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.
- (9) If a Subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against City because privity of contract does not exist, the Contractor may present to the City a claim on behalf of a Subcontractor or lower tier subcontractor. A Subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the Claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the City and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.
- (10) Nothing in this section shall impose liability upon the City that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.
- (11) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

3. To the extent applicable, Public Contract Code Section 20104, et seq., provide:

- (a) For the purposes of this section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by City. Separate Contractor Claims that together total more than \$375,000 do not qualify as a "separate demand of \$375,000 or less," as referenced above, and are not subject to this section.
- (b) Caution. This section does not apply to tort claims, and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the Government Code.
- (c) Procedure:
 - (1) The Claim must be in writing, submitted in compliance with all requirements of General Conditions including, without limitation, the time prescribed by and including the documents necessary to substantiate the Claim. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in the General Conditions or elsewhere in the Contract Documents.
 - (2) For Claims of fifty thousand dollars (\$50,000) or less, City shall respond in writing within forty-five (45) days of receipt of the Claim, or City may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of City and Claimant. City's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information,

whichever is greater.

- (3) For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000: City shall respond in writing within sixty (60) days of receipt of the Claim, or City may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of City and Claimant; City's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
- (4) Meet and Confer: If Claimant disputes City's written response, or City fails to respond within the time prescribed above, Claimant shall notify City, in writing, either within fifteen (15) days of receipt of City's response or within fifteen (15) days of City's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand City will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
- (5) Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

31. **ATTORNEYS' FEES; VENUE.** The Agreement shall be deemed to have been executed in the City of Menlo Park, California. Enforcement of the Contract Documents shall be governed by the laws of the State of California, excluding its conflict of laws rules. Except as expressly provided in the Contract Documents, nothing in the Contract Documents shall operate to confer rights or benefits on persons or entities not party to the Agreement. As between the parties to the Agreement, any applicable statute of limitations for any act or failure to act shall commence to run on the date of City's issuance of the final Certificate for Payment, or termination of the Contract Documents, whichever is earlier, except for latent defects, for which the statute of limitation shall begin running upon discovery of the defect and its cause. In the event that any party to this Contract commences any legal action or proceeding to enforce or interpret the provisions of this Contract, the prevailing party in such action or proceeding shall be entitled to recover reasonable attorneys' fees and other costs incurred in that action or proceeding, in addition to any other relief to which the successful party may be entitled. The venue for any litigation shall be San Mateo County.
32. **COOPERATION.** In the event any claim or action is brought against the City relating to Contractor's performance or services under this Agreement, Contractor shall render any reasonable assistance and cooperation which City might require.
33. **NUISANCE.** Contractor shall not maintain, commit, nor permit the maintenance or commission of any nuisance in connection with the performance of services under this Contract.
34. **GOVERNING LAW.** This Contract shall be construed in accordance with and governed by the laws of the State of California.
35. **COMPLETE AGREEMENT; SEVERABILITY.** This Contract, and any other documents incorporated

herein by reference, represent the entire and integrated agreement between the City and Contractor. This Contract supersedes all prior oral and written negotiations, representations or agreements. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Contract may only be modified by a written amendment duly executed by the parties to this Contract. In case a provision of this Contract is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.

36. NO MODIFICATION OR WAIVER. The Contract Documents may not be modified, nor may compliance with any of its terms be waived, except by written instrument executed and approved by fully authorized representatives of City and Contractor. Contract Documents headings are for convenience only and do not affect the construction of the Contract Documents.
37. COUNTERPARTS. This Contract may be signed in multiple counterparts, which shall, when executed by all the parties constitute a single binding contract.

Signatures on next page.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day and year first above written.

FOR FIRST PARTY:

Signature

Date

Printed name

Title

Tax ID#

APPROVED AS TO FORM:

Nira F. Doherty, City Attorney

Date

FOR CITY OF MENLO PARK:

Justin I. C. Murphy, City Manager

Date

ATTEST:

Judi A. Herren, City Clerk

Date



**Proposal
to
City of Menlo Park
State of California**

for

BELLE HAVEN CHILD DEVELOPMENT CENTER ELECTRIFICATION PROJECT (CPB-025)

NAME OF BIDDER: SCC Electric Inc

BUSINESS ADDRESS: 1301 Grant Ave, Suite B

CITY, STATE, ZIP: Novato, CA 94945

LICENSE NO.: 1109026 CLASS: A,B,C7,C10 EXP. DATE: 8/30/27

TAX I.D. NO.: 93-2457022

DIR REGISTRATION NO.: 1001097227

TELEPHONE NO: (415) 599-6545 FAX NO: (415) 209-0228

EMAIL: estimating@sccelectricinc.com

HOW DID YOU HEAR ABOUT THIS PROJECT builders exchange

The work for which this Proposal is submitted is for construction in accordance with the Contract documents approved by the Assistant Public Works Director/City Engineer on **June 8, 2026**, entitled **Belle Haven Child Development Center Electrification Project (CPB-025)**. The State of California Department of Transportation Labor Surcharge and Equipment Rental Rates, and the State Department of Industrial Relations General Prevailing Wage Rates, current at the bid opening date, shall be used.

The project's scope of work is generally described in the "Notice to Contractors Inviting Bids" and per Section 4-2 of the General Provisions herein. Bidders shall also refer to the project's construction drawings, included per these Appendices, and the following sections of these specifications, regarding the scope of work in this contract.

Cash, cashier's check or certified check payable to the City, or a bidder's bond executed by an admitted surety insurer naming the City as beneficiary, in an amount equal to ten percent (10%) of the total bid amount including all alternatives shall accompany this Proposal. A list of subcontractors for work in the excess of one half of one percent (0.5%) of the total Contract, or ten-thousand (\$10,000), whichever is greater per page 29 of the total bid amount including all alternatives and a statement of financial responsibility, technical ability, and experience if such information is not already on file with the City shall accompany this Proposal; and be completely filled in by the bidder and the same are incorporated herein by reference. The project shall be awarded to the lowest responsive and responsible bidder who meets all of the Proposal Requirements, and the requirements of the Contract Documents.

Failure to provide the required information, or if information provided is subsequently proved false,

the Proposal may be considered as non-responsive and may be grounds for rejection of the bid.

After acceptance of this Proposal and award of the Contract, if the undersigned should fail to contract as aforesaid or should fail to give the "Performance" Surety Bond in the sum of one hundred percent (100%) of the Contract bid, along with the required Bonds, along with the Certificate of Insurance covering public liability and property damage in the amounts specified in the Construction Contract, to the City of Menlo Park within twelve (12) days, not including Sundays and legal holidays, after the Bidder has received notice from the City that the Contract has been awarded, the City may, at its option, determine that the bidder has abandoned the Contract, thereupon this Proposal and the acceptance thereof shall be null and the forfeiture of such security accompanying this Proposal shall operate and the same shall become the property of the City of Menlo Park.

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other person, firm or corporation; that he/she has carefully examined the location of the proposed work, the proposed Contract, and the Plans and Specifications therein referred to; that he/she proposes and agrees if this Proposal is accepted, that he/she will contract with the City of Menlo Park, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract, in the manner and time therein prescribed and according to the requirements of the Engineer as therein set forth, and that he will accept in full payment therefore the following unit prices, to wit:

PAY ITEM PRICE SCHEDULE

Bids are required for the entire work. Unless otherwise specified in the Special Conditions, the amount of the bid for comparison purposes will be the total of all base bid items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

The Bidder shall set forth for each item of work, in clearly legible figures, an item price and a total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Total" column shall be the extension of the item price bid on the basis of the estimated quantity for the item.

In case of discrepancy between an item price and total set forth for the item, the item price shall prevail, provided however, if the amount set forth as an item price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case of unit basis items, is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the item price.
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the item price.

The following shall be signed and submitted as part of bidder's proposal. Failure to do so may deem the bid as non-responsive.

BIDDER'S STATEMENT

The undersigned declares, by signature, that their bid figures are accurate and have been carefully checked. Furthermore, the undersign accepts that the City shall not be responsible for any errors or omissions on the part of the undersigned in making up their bid. The undersigned hereby acknowledges the following provisions with their bid.

That the Base and Alternate Bid Items will be considered in accordance with Section 3-1.2, "Add Alternate Consideration," of the project Special Provisions.

That the estimate of construction quantities set forth herein, and per Planetbids, is approximate only, being given as a basis for the comparison of bids. The City does not expressly or by implication agree that the actual amount of work will correspond therewith, and reserves the right to change the amount of any class or portion of the work or to omit portions of the work as may be deemed necessary or expedient in accordance with the Special Provisions.

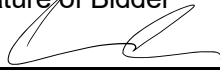
That the City reserves the right to increase or decrease quantities as deemed necessary.

Date: 7/2/26

(Type or print name)

Charlie Slack

Signature of Bidder



The Project Bid Schedules on these sheets is FOR REFERENCE ONLY and will not be used to evaluate bid results. Bids shall be submitted via the City's Planetbids portal

Base Bid Items							
Item No.	Sec. No.	Description	Units	Estimated Quantity	Item Price per Unit of Quantity (In words)	Item Price per Unit (In figures)	Total (In figures)
Base Bid Items							
1	9	Mobilization & Demobilization	LS	1		\$	\$
2	9	Demolition & Equipment Removal	LS	1		\$	\$
3	9	Ductwork (N), Ductwork Modifications, & Ductwork Insulation	LS	1		\$	\$
4	9	Admin Ceiling - Modify & Repair	LS	1		\$	\$
5	9	Classroom Access Hatch – Modify as Necessary, New Casework & Doors	EA	4		\$	\$
6	9	Classroom HVAC Systems, Pressure Relief Valves, Thermostats, & Accessories – Furnish & Install	EA	4		\$	\$
7	9	Admin HVAC System, Pressure Relief Valves, Thermostat & Accessories - Furnish & Install	LS	1		\$	\$
8	9	(N) Roof Penetrations, Patching, Repairing, Flashing, & Waterproofing	EA	4		\$	\$
9	9	HVAC Remote Control Systems & BMS Integration	LS	1		\$	\$
10	9	Testing & Balancing	LS	1		\$	\$
11	9	Electrical Work, Power Connections & Low Voltage Wiring (0-10V)	LS	1		\$	\$
12	9	Mini Split at IT Electrical room, Including Power Supply, Furnish & Install	LS	1		\$	\$
13	9	New LED Lighting and Fixtures for Classroom and MPR – Furnish & Install	LS	1		\$	\$
14	9	Interior Lighting Controls – Furnish & Install, Modify	LS	1		\$	\$
15	9	Exterior Wall and Pole Mounted Fixtures	LS	1		\$	\$
16	9	Electric Induction Ranges - Furnish & Install	EA	3		\$	\$
17	9	Dishwashers – Furnish & Install	EA	3		\$	\$
Base Bid Subtotal			(in words)			\$	
(Base Bid Items 1-17)							

ADDENDA ACKNOWLEDGEMENT

The undersigned acknowledges receipt of Addendum number 1 through 1 inclusively.

Date: 7/2/26

(Type or print name)

Charlie Slack

Signature of Bidder

Bidder Certifications and Statements

The following certifications, statements and responses are hereby incorporated into the Proposal:

Principal Persons with Interest in Proposal

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 legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

Charlie Slack, President, secretary, treasurer

Public Contract Code Section 10285.1 Statement

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____/has not ☒ ____ been convicted within the preceding three years of any offenses referred to in that Section. These offenses include any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works Contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100,. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In accordance with Public Contract Code Section 10162, the bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or safety regulation?

YES _____ NO ☒ _____

If the answer is yes, explain the circumstances in the following space:

NA

Public Contract Code Section 10232 Statement

In accordance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Workers Compensation Requirement

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

Registration of Contractors

Before submitting bids, Contractors shall be licensed in accordance with the provisions of the State Contractors' License Law, Business and Professions Code 7000 et seq. as amended. Pursuant to California Labor Code section 1771.4, the project that is the subject and purpose of this contract is subject to prevailing wage compliance monitoring by the California Department of Industrial Relations.

Pursuant to California Labor Code section 1771.1, by execution below, the Bidder and its Subcontractors certify that they are registered and qualified to perform public work pursuant to section 1725.5 of the California Labor Code, subject to limited legal exceptions.

Affidavit of Noncollusion

Title 23, United States Code, Section 112 Noncollusion and Public Contract Code Section 7106

In accordance with Title 23, United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the Contract on anyone interested in the proposed Contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Statements, Questionnaire, and Non-collusion Affidavit are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statements, Questionnaire and Non-collusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Debarment and Suspension Certification

The bidder, under penalty of perjury, certifies that, except as noted below, they or any person associated therewith in the capacity of owner, partner, director, officer, manager (please check if applicable):

- ☒ Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any state or federal agency;
- ☐ Has not been suspended, debarred, voluntarily excluded or determined ineligible by any state or federal agency within the past three (3) years;
- ☐ Does not have a proposed debarment pending; and
- ☐ Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

If there are any exceptions to this certification, insert the exceptions in the following space:

NA

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action:

NA

Note: Providing false information may result in criminal prosecution or administrative sanction. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

By my signature on this Proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this Proposal I further certify, under penalty of the perjury under the laws of the State of California that the Non-Collusion Affidavit, and the Debarment and Suspension Certification are true and correct.

Date: 7/2/26

(Type or print name)

Charlie Slack

Signature of Bidder



Business Address (Street Address, City, State & Zip Code):

1301 Grant Ave, Suite B, Novato, CA 94945

Business Phone: (415) 599-6545

Fax No.: (415) 209-0228

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

State of California }
 County of Marin } ss.

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

[Signature]
 Contractor

On 06-28-2026, before me, Harry Matthew Carrington a Notary Public, personally appeared Charles Winslow Sluck, Jr., personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

(Seal)



[Signature]
 Notary Public

Subscribed and sworn to before me this

28 day of JUne, 2026

Notary Public in and for the County of Marin, STATE OF CALIFORNIA



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Bid Bond

Note: Bidders may use this form as the Bid Bond to accompany proposals or may substitute standardized bond forms prepared by their surety. If substitute forms are submitted, the following text shall be included.

KNOW ALL PERSONS BY THESE PRESENTS, that we, SCC Electric, Inc., as Principal, and American Alternative Insurance Corporation, as Surety, are held and firmly bound unto the City of Menlo Park, hereinafter called "City", in penal sum of ten percent (10%) OF THE TOTAL AMOUNT OF THE PROPOSAL submitted to the said City for the work described below for the payment of which sum in lawful money of the United States, 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 whereas the Principal has submitted the accompanying Proposal dated July 2, 2026, for the Belle Haven Child Development Center Electrification Project (CPB-025),

NOW, THEREFORE, if the Principal shall not withdraw said Proposal prior to the date and time for the opening of bids, and if the Principal is awarded the Contract and shall within the period specified in the Proposal after receiving notice that the Contract has been awarded and the prescribed forms are presented to him/her for signature, enter in a written Contract with the City, in accordance with the Proposal as accepted and give insurance and bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Proposal within the period specified or the failure to enter into such Contract and give such City bonds, within the time specified, if the Principal shall pay the City the difference between the amount specified in said Proposal and the amount for which the City may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the City in again calling for bids, then the above obligation shall be voided and of no effect, otherwise to remain in full force and virtue.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise 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 to the work, or to the specifications.

In the event suit is brought upon this bond by the City and judgment is recovered, the Surety shall pay all costs incurred by the City in such suit, including a reasonable attorney's fee to be fixed by the court.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this 26th day of June, 2026, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

(Corporate Seal)

Principal: SCC Electric, Inc.

By: [Signature]

(Acknowledgment)

Title: Charlie Slack, President

(Corporate Seal)

Surety: American Alternative Insurance Corporation

By: Salina Ko
Attorneys-in-fact

(Acknowledgment)

Title: Salina Ko, Attorney-In-Fact

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

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

SEE ATTACHED NOTARY ACKNOWLEDGMENT FOR SURETY

NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY

STATE OF CALIFORNIA }
COUNTY OF _____ } ss.

On _____, before me, _____ a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)

ACKNOWLEDGMENT

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

State of California
County of Contra Costa)

On June 26, 2026 before me, Shawndrae N. Johnston, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.



Signature Shawndrae N. Johnston (Seal)

KNOW ALL MEN BY THESE PRESENTS: That the AMERICAN ALTERNATIVE INSURANCE CORPORATION, a corporation organized and existing by virtue of the laws of the State of Delaware ("Corporation") with offices at 555 College Road East, Princeton, N.J. 08543, has made, constituted and appointed, and by these presents, does make, constitute and appoint:

Kevin Re; Julia Ortega; Thuyduong Le; Misty R. Hemje; Brittany Kavan; Salina Ko; Harold Foy; Forrest Chamberlain; K. Zerounian; Virginia L. Black; Fnu Yilan; Maria D. Reynoso; Tina Nierenberg; Brian F. Cooper; Susan Hecker; M. Moody; Maureen O'Connell; Janet C. Rojo; Betty L. Tolentino; and Robert P. Wrixon

its true and lawful Attorneys-in-Fact, at Princeton, in the State of New Jersey, each of them alone to have full power to act without the other or others, to make, execute and deliver on its behalf, as Surety or Co-surety, bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate said Company for any portion of the penal sum thereof in excess of the sum of One Hundred Fifty Million Dollars (\$150,000,000.00). Such bonds and undertakings for said purposes, when duly executed by said Attorney(s)-in-Fact, shall be binding upon said Company as fully and to the same extent as if signed by the President of said Company under its corporate seal attested by its Secretary.

This appointment is made under and by authority of a certain Resolution adopted at a meeting of the Board of Directors of said Company duly held on the 27th day of August, 1975, a copy of which appears below.

IN WITNESS WHEREOF, the AMERICAN ALTERNATIVE INSURANCE CORPORATION has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this 9th day of January, 2026.



By:

Cathy Smith
President

Attest:

Ignacio Rivera
General Counsel & Secretary

STATE OF NEW JERSEY, COUNTY OF MIDDLESEX

The foregoing instrument was acknowledged before me by means of online notarization this 9th day of January, 2026, by Cathy Smith and Ignacio Rivera, who are personally known to me.

Notary Stamp
here

BETH COHAN-CHIN
Commission #2209356
Notary Public, State of New Jersey
My Commission Expires February 2, 2028

Beth Cohan-Chin

Beth Cohan-Chin, Notary Public
State of New Jersey
My Commission Expires February 2, 2028

SECRETARY'S CERTIFICATE

The undersigned, Ignacio Rivera, hereby certifies:

1. That the undersigned is Secretary of American Alternative Insurance Corporation, a corporation of the State of Delaware;
2. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of said Corporation on the day of its date, and has not since been revoked, amended or modified; that the undersigned has compared the foregoing copy thereof with said original power of attorney, and that the same is a true and correct copy of said original power of attorney and of the whole thereof;
3. That the original resolution of which the following is a copy was duly adopted at, and recorded in the minutes of, a regular meeting of the Board of Directors of said Corporation duly held on August 4, 1998, and has not since been revoked, amended or modified.

RESOLVED, that each of the following officers of this Corporation, namely, the President, the Executive Vice President, the Senior Vice Presidents, and the Vice Presidents, be, and they hereby are, authorized, from time to time in their discretion, to appoint such agent or agents or attorney or attorneys-in-fact as deemed by them necessary or desirable for the purpose of carrying on this Corporation's business, and to empower such agent or agents or attorney or attorneys-in-fact to execute and deliver, in this Corporation's name and on its behalf, and under its seal or otherwise, surety bonds, surety undertakings or surety contracts made by this Corporation as surety thereon.

RESOLVED, that the signature of any authorized officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney and revocation of any power of attorney or certificate of either given for the execution of any surety bond, surety undertaking, or surety contract, such signature and seal, when so used being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed.

FURTHER RESOLVED, that any prior appointments by the Corporation of MGAs are, in all respects, hereby ratified, confirmed and approved.

FURTHER RESOLVED, that the Secretary or any Assistant Secretary of this Corporation is hereby authorized to certify and deliver to any person to whom such certification and delivery may be deemed necessary and desirable in the opinion of such Secretary or Assistant Secretary, a true copy of the foregoing resolution.

4. The undersigned has compared the foregoing copies of said original resolutions as so recorded, and they are the same true and correct copies of said original resolutions as so recorded and of the whole thereof.

Witness the hand of the undersigned and the seal of said Corporation this 26th day of June, 2026



AMERICAN ALTERNATIVE INSURANCE CORPORATION

Ignacio Rivera
General Counsel & Secretary

TR5-1001-1



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Alternate Form of Bid Deposit

Note: Bidders may use this form as the Bid Deposit to accompany proposals when submitting a cashier's check or a certified check, which must accompany this form.

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, as Principal, are held and firmly bound unto the City of Menlo Park, hereinafter called "City", in penal sum of ten percent (10%) OF THE TOTAL AMOUNT OF THE PROPOSAL submitted to the said City for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE EXACT FORM OF THIS DEPOSIT is as hereby described as: _____

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas the Principal has submitted the accompanying Proposal dated _____, 20__, for the **Belle Haven Child Development Center Electrification Project (CPB-025).**

NOW, THEREFORE, if the Principal shall not withdraw said Proposal prior to the date and time for the opening of bids, and if the Principal is awarded the Contract and shall within the period specified in the Proposal after receiving notice that the Contract has been awarded and the prescribed forms are presented to him/her for signature, enter in a written Contract with the City, in accordance with the Proposal as accepted and give insurance and bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Proposal within the period specified or the failure to enter into such Contract and give such City bonds, within the time specified, if the Principal shall pay the City the difference between the amount specified in said Proposal and the amount for which the City may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the City in again calling for bids, then the above obligation shall be voided and of no effect, otherwise to remain in full force and virtue.

Principal hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation, 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 to the work, or to the specifications.

In the event suit is brought upon this Deposit by the City and judgment is recovered, all costs incurred by the City in such suit, including a reasonable attorney's fee to be fixed by the court shall also be added to the judgment award and be payable from the funds or instrument constituting this Deposit.

List of Subcontractors

Per sections 4100-4114 of the Public Contracts Code, the Bidder shall list the name, California Contractor license number, address and telephone number of each subcontractor to whom the Bidder proposes to subcontract portions of the work in the excess of 0.5% of the total Contract, or \$10,000, whichever is greater.

NOTE: No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to section 1725.5 of the Labor Code, subject to limited legal exceptions under Labor Code section 1771.1.

Subcontractor Information	Description of Work	Subcontractor License No.	DIR Registration Number
Name: CWS CONSTRUCTION Number: 415-599-6545 Address: 1301 grant ave, suite b, novato, ca 94945	Carpentry	811153	1000020287
Name: AMG Number: 510-654-8441 Address: 3438 Helen street, oakland, ca	Demo	586844	1000003666
Name: Highpoint Number: 707-328-8764 Address: 566 martin ave, rohnert park, ca	Acoustics	1036311	20000000532
Name: J.O Roofing Inc Number: 415-368-8942 Address: 197 Desmond Street, San Francisco, ca	Roofing	1091379	1001004540
Name: Top Notch Number: 916-367-2367 Address: 1060 National Drive, sacramento, ca	HVAC	972009	1000017371
Name: Number: Address:			

(Bidder to attach additional sheets if necessary)

Mandatory Safety Program Requirements

The City of Menlo Park requires that to be considered a responsive bid, that all bidders meet the following safety qualification guidelines. The bidder's sub-consultant or sub-contractor shall be exempt from this section unless otherwise requested by the Engineer in writing. **Failure to provide the safety data sheets will result in a non-responsive bid.**

All Bidders must satisfy at least two of the three safety standards identified below. If a BIDDER cannot satisfy two of the three minimum safety standards, the City will consider a bid from BIDDER meeting only one of the minimum safety standards, however the BIDDER will be required to provide the services of a third-party safety consultant specializing in the type of work to be performed that is acceptable to the Engineer. The City will not be responsible for any additional costs incurred for providing the third-party safety consultant and BIDDER shall include such costs in its bid. The third-party safety consultant will be used in the capacity of reviewing the Contractor's Site Safety and Project Safety Plans, providing periodic monitoring of site safety at a frequency to be determined by the Engineer, reviewing special safety hazards not addressed in the Contractor's safety plans and reviewing and evaluating the safety incidents that occur during the project.

City of Menlo Park Minimum Safety Standards:

1. Experience Modification Rate (EMR or Exmod): Experience modification rates are calculated by the insurance industry as a way to determine equitable workers' compensation insurance premiums. It is calculated as a three-year moving average. A BIDDER shall have a current three-year average EMR of **1.0** or lower.
2. Recordable Incident Rate (RIR): The RIR is a measure of the frequency of injuries and is a measure of all occupational injuries and illnesses that occur within an organization. It is calculated from the OSHA Log 300 form. A BIDDER shall have a current three-year average RIR of **7.0** or lower.
3. Lost Time Incident Rate: The LTIR is an indicator of the severity of a company's occupational injuries. The LTIR deals only with incidents that result in lost work time. Like the RIR, the information needed to calculate the LTIR is derived OSHA Log 300 form. A BIDDER shall have a current three-year average RIR of **4.6** or lower.

All Bidders shall complete and submit the following forms and release with its bid.

Mandatory Safety Program Requirements Experience Modification Rate

The following information will be used to determine if you meet the minimum safety requirements for this project.

You must not have a three-year average Workers' Compensation Experience Modification Rate (Ex-mod) greater than **1.0**. Please provide verification of your Ex-mod from your insurer in your proposal and provide your current Ex-mod below:

Enter your Experience Modification Rate for the last three complete years (available from your insurance carrier).

20 26 EMR = .88

20 25 EMR = .88

20 24 EMR = .88

THREE-YEAR AVERAGE = .88

Mandatory Safety Program Requirements Recordable incident rate

The following information will be used to determine if you meet the minimum safety requirements for his project. To qualify, you must not have a three-year average Recordable Incident Rate greater than **7.0**. Incident rate information is on your OSHA Log 300. Please calculate the RIR for the last three complete years as follows.

$$\frac{\text{Total number of recordable incidents} \times 200,000}{\text{Total employee hours worked}} = \text{RIR}$$

Recordable incidents

Year	Number
20 <u>26</u>	<u>0</u>
20 <u>25</u>	<u>0</u>
20 <u>24</u>	<u>0</u>

Total Employee Hours Worked

Year	Hours
20 <u>26</u>	<u>12,000</u>
20 <u>25</u>	<u>16,640</u>
20 <u>24</u>	<u>8000</u>

Enter your Total Recordable Incident Rate for each of the last three complete years.

20 26 RIR = 0

20 25 RIR = 0

20 24 RIR = 0

Three-Year Average = 0

Mandatory Safety Program Requirements Lost time incident rate

The following information will be used to determine if you meet the minimum safety requirements for this project. To qualify, you must not have a three-year average Lost Time Incident Rate greater than **4.6**. Incident rate information is on your OSHA Log 300. Please calculate the LTIR for the last three complete years as follows.

$$\frac{\text{Total number of lost-time incidents} \times 200,000}{\text{Total employee hours worked}} = \text{LTIR}$$

Lost-time Incidents

Year	Number
20_26	0
20_25	0
200_24	0

Total Employee Hours Worked

Year	Hours
20_26	12,000
20_25	16,640
20_24	8000

Enter your Lost Time Incident Rate for each of the last three complete years.

20_26 LTIR = 0

20_25 LTIR = 0

20_24 LTIR = 0

Three-Year Average = 0

**Mandatory Safety Program Requirements
Authorization to Disclose Information**

To verify the information provided in your bid packet, we may contact your workers' compensation insurance company, agent, broker, safety consultants, or other related parties. Please provide your authorization to release this information. Failure to do so will result in automatic disqualification.

I authorize my insurance company, agent or broker, as well as any other party with knowledge of the Company's safety record, to disclose to the City of Menlo Park information concerning the Company's insurance coverage, claims, and safety record, including the Workers' Compensation Experience Modification Rate, Recordable Incident Rate, Lost Time Incident Rate, OSHA 300 log, claims history, or other safety issues or factors related to the Company's operations.

Company Name: SCC Electric Inc

Authorized By: Charlie Slack Title: President

Signature:  Date: 7/2/26

This authorization shall remain in effect for the duration of the project or one year from date of signature. A copy of the authorization shall be as valid as the original.

Agent or Broker: AJG

Address: 50 California Street, 12th Floor San Francisco, CA 94111

Contact Name: Brian Hammel Phone: 408-878-3848

Contact Email Address: Brian_Hammel@AJG.com

Safety Personnel or Consultant: AJG

Contact Person: Brian Ly Phone: 408-878-3848

Contact Email Address: brian_ly@ajg.com

Bidder's Financial Responsibility, Technical Ability & Experience

THE BIDDER SHALL FURNISH EVIDENCE OF FINANCIAL RESPONSIBILITY AND ABILITY TO PERFORM THE WORK INCLUDED IN THIS PROPOSED CONTRACT. SUCH EVIDENCE MAY INCLUDE, BUT NOT BE LIMITED TO, A FINANCIAL STATEMENT AS OF THE DATE OF BID; A STATEMENT, WITH REFERENCES, OF THREE COMPLETED PROJECTS OF A SCOPE & PRICE SIMILAR TO THAT INCLUDED HEREIN; A STATEMENT OF THE LAST THREE PROJECTS PERFORMED REGARDLESS OF THEIR CHARACTER; AND SUCH OTHER INFORMATION WHICH WILL ENABLE THE PUBLIC WORKS DIRECTOR TO JUDGE THE BIDDER'S RESPONSIBILITY, EXPERIENCE, SKILL AND BUSINESS STANDING.

The bidder has been engaged in the contracting business under State License No. 1109026 for a period of 3 years and has the following DIR Registration No. 1001097227.

The bidder's three recently completed projects similar to the work outlined by section -11 General of these special provisions for a Public Agency in the State of California:

1. Title of Project: Please see attached

Owner:

Address:

Telephone No.:

Engineer in Charge:

Date Accepted:

2. Title of Project:

Owner:

Address:

Telephone No.:

Engineer in Charge:

Date Accepted:

3. Title of Project: _____

Owner: _____

Address: _____

Telephone No.: _____

Engineer in Charge: _____

Date Accepted: _____

Reference is hereby made to the following bank or banks as to the financial responsibility of the bidder:

Name of Bank	Address
<u>Bank Of Marin</u>	<u>1450 Grant Ave, Novato, CA 94945</u>
_____	_____

Reference is hereby made to the following surety companies as to the financial responsibility and general reliability of the bidder:

Company: AJG

Address: 50 California Street, 12th Floor San Francisco, CA 94111

Company: _____

Address: _____

Bidder's Qualification Statement

All Prospective Bidders **must** submit the Qualification Statement (QS) herewith along with the Bid Package.

Qualifications Statement Requirements: Prospective Bidders shall submit all information and forms specified in the Qualifications Statement, including the Response Sheets and resumes for key personnel. Failure to provide the required responsibility information as indicated herewith shall constitute grounds for rejection of the QS.

Review of the Qualifications Statement: All information submitted for qualification evaluation will be considered official information acquired in confidence and the City will maintain its confidentiality to the extent permitted by law.

The City and/or its designee will review and evaluate the information contained in each Prospective Bidder's QS within five (5) days and notify Prospective Bidders, whether their QS is found responsive and responsible for this project. The sole and discretionary judgment of the City and/or its designee will determine if a Prospective Bidder is deemed responsible and responsive.

Protesting a Disqualification: Prospective Bidders who are disqualified for this project, may submit a protest to the City. This protest must be submitted in writing and must provide a basis or grounds for the protest. This written protest must be received by the City within five (5) days of the date the City issues a disqualification notification. Please see section 3-1.1 for procedure to protest award of contract.

Response Sheets

Please answer the following questions and sign the Qualification Statement certification for **Belle Haven Child Development Center Electrification Project (CPB-025)** :

Contractor will be immediately disqualified if the answer to any of questions 1 through 3 is "No."

- A. Contractor has a liability insurance policy with a policy limit of at least \$2,000,000 per occurrence and \$4,000,000 aggregate.
☒ Yes ☐ No
- B. Contractor has current workers' compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.
☒ Yes ☐ No
- C. Contractor's Field Superintendent/Foreman has a minimum of five (5) years of construction experience doing similar scope of work per the project description, each with a minimum construction value of \$100,000. Please attach a copy of a resume of the proposed Field Supervisor/Foreman, detailing the similar project descriptions, project responsibilities, relevant experience, and project owner references including current contact information.
☒ Yes ☐ No

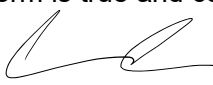
Contractor may be disqualified if the answer to any of questions 4 through 15 is "Yes". Explanation deemed to be Assistant Public Works Director/City Engineer

- D. Has your contractor's license been revoked at any time in the last five (5) years?
☐ Yes ☒ No
- E. Has a surety firm completed a contract on your behalf, or paid for completion because your firm was default terminated by the project owner within the last five (5) years?
☐ Yes ☒ No
- F. At the time of submitting this Qualification Statement, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to Labor Code section 1777.1.
☐ Yes ☒ No
- G. At any time during the last five (5) years, has your firm or any of its officers been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?
☐ Yes ☒ No
- H. Was your firm in bankruptcy at any time during the last five (5) years?
☐ Yes ☒ No
- I. Has your firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?
☐ Yes ☒ No

- J. Has your firm or any of its owners, officers or partners ever been convicted of a crime involving any federal, state, or local law related to construction?
☐ Yes ☒ No
- K. Has your firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?
☐ Yes ☒ No
- L. Defaulted on a contract forcing a surety to suffer a loss?
☐ Yes ☒ No
- M. Had any mediation or arbitration on a contract initiated by the owner/public agency?
☐ Yes ☒ No
- N. Has the Contractor been fined, penalized or otherwise found to have violated any State or Federal fair employment provision or law?
☐ Yes ☒ No
- O. Has the Contractor been fined, penalized or otherwise found to have violated any prevailing wage provisions?
☐ Yes ☒ No

Explanation field for the ones they answered yes are subject for review, and not automatically disqualified.

Qualifications Statement Certification. The Undersigned declares under penalty of perjury that all of the responsibility information submitted with this form is true and correct and that this Declaration was executed by a duly authorized officer of the Company.

Signature  _____

Typed or Printed Name and Title Charlie Slack, President

Firm Name SCC Electric Inc

Address 1301 Grant Ave, Suite B, Novato, CA 94945

Telephone Number 415-599-6545 Fax Number 415-209-0228

QS Contact Email Address: charlie@sccelectricinc.com

Submission

Bidder Details

Vendor Name	SCC Electric Inc
Address	1301 Grant Ave Suite B Novato, California 94945 United States
Respondee	Charlie Slack
Respondee Title	President
Phone	415-599-6545
Email	charlie@sccelectricinc.com
Vendor Type	CADIR, DGS, WHITE, MALE
License #	1109026
CADIR	1001097227

Submission Detail

Submission Format	Electronic
Submitted	07/02/2026 1:32 PM (PDT)
Delivery Method	
Responsive	
Submission Status	Submitted
Confirmation #	495237

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Belle Haven Child Developement electrification.pdf	Belle Haven Child Developement electrification.pdf	General Attachment General Attachment

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Base Bid Items							\$636,500.00		
1	Section 9		Mobilization and Demobilization	Lump Sum	1	\$50,000.00	\$50,000.00	Yes	
2	Section 9		Demolition & Equipment Removal	Lump Sum	1	\$75,000.00	\$75,000.00	Yes	
3	Section 9		Ductwork (N), Ductwork Modifications, & Ductwork Insulation	Lump Sum	1	\$10,000.00	\$10,000.00	Yes	
4	Section 9		Admin Ceiling - Modify & Repair	Lump Sum	1	\$80,000.00	\$80,000.00	Yes	
5	Section 9		Classroom Access Hatch - Modify as Necessary, New Casework & Doors	Each	4	\$10,000.00	\$40,000.00	Yes	
6	Section 9		Classroom HVAC Systems, Pressure Relief Valves, Thermostats, & Accessories - Furnish & Install	Each	4	\$25,000.00	\$100,000.00	Yes	
7	Section 9		Admin HVAC System, Pressure Relief Valves, Thermostat & Accessories - Furnish & Install	Lump Sum	1	\$33,000.00	\$33,000.00	Yes	
8	Section 9		(N) Roof Penetrations, Patching, Repairing, Flashing, & Waterproofing	Each	4	\$5,000.00	\$20,000.00	Yes	
9	Section 9		HVAC Remote Control Systems & BMS Integration	Lump Sum	1	\$89,000.00	\$89,000.00	Yes	
10	Section 9		Testing & Balancing	Lump Sum	1	\$2,500.00	\$2,500.00	Yes	
11	Section 9		Electrical Work, Power Connections & Low Voltage Wiring (0-10V)	Lump Sum	1	\$37,000.00	\$37,000.00	Yes	
12	Section 9		Mini Split at IT Electrical room, Including Power Supply, Furnish & Install	Lump Sum	1	\$9,000.00	\$9,000.00	Yes	
13	Section 9		New LED Lighting and Fixtures for Classroom and MPR - Furnish & Install	Lump Sum	1	\$40,000.00	\$40,000.00	Yes	
14	Section 9		Interior Lighting Controls - Furnish & Install, Modify	Lump Sum	1	\$14,000.00	\$14,000.00	Yes	
15	Section 9		Exterior Wall and Pole Mounted Fixtures	Lump Sum	1	\$16,000.00	\$16,000.00	Yes	
16	Section 9		Electric Induction Ranges - Furnish & Install	Each	3	\$4,500.00	\$13,500.00	Yes	
17	Section 9		Dishwashers - Furnish & Install	Each	3	\$2,500.00	\$7,500.00	Yes	

Line Item Subtotals

Section Title	Line Total
Base Bid Items	\$636,500.00
Grand Total	\$636,500.00

BELLE HAVEN CHILD DEVELOPMENT CENTER ELECTRIFICATION PROJECT (CPB-025) CONTRACT DOCUMENTS

Public Works
701 Laurel St., Menlo Park, CA 94025
tel 650-330-6740



Project number: CPB-025	Project manager: Michael Fu
Project issued: June 8, 2026	Project manager tel: 650-330-6706
	Project manager email: mgfu@menlopark.gov
Description	
The project is located at the Belle Haven Child Development Center located at 410 Ivy Drive, Menlo Park, California. The scope of work generally includes replacement of five (5) gas HVAC systems with new heat exchange HVAC equipment, including adding economizers and building system controls, LED lighting upgrades, replacement of a dishwasher, and replacement of existing gas & electric ranges with electric induction ranges.	
The work shall be subject to a permit from the City’s building department and must abide by the latest California Building Code and other provisions as indicated in these contract specifications. Please refer to the attached Plans and Appendices for additional information.	



Guan Huan Fu
Assistant Public Works Director
Registered Civil Engineer #79833
Expiration: September 30, 2026

CITY OF MENLO PARK'S ELECTRONIC BIDDING SITE, PLANET BIDS
<https://pbsystem.planetbids.com/portal/46202/portal-home>

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Notice to Contractors Inviting Bids

**CITY OF MENLO PARK
STATE OF CALIFORNIA
ENGINEERING DIVISION**

**Notice to Contractors Inviting Bids
for
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT (CPB-025)**

1. BID OPENING. Electronic bids for the **Belle Haven Child Development Center Electrification Project (CPB-025)**, will be received in electronic format on the City's PlanetBids Portal available at <https://pbsystem.planetbids.com/portal/46202/portal-home>. Bids will be received up to **Thursday July 2, 2026 at 2:00 PM** at which time the City will review and publish bid summary results online, via the PlanetBids Portal, by the end of business day at 5pm. Please note Bidders must be pre-registered with the City's bidding system in order to submit an electronic bid.
 2. WORK DESCRIPTION. The project is located at 410 Ivy Drive, Menlo Park, CA 94025, at the Belle Haven Child Development Center. The scope of work generally includes replacement of five (5) gas HVAC systems with new heat exchange HVAC equipment, including adding economizers and building system controls, LED lighting upgrades, replacement of dishwashers, and replacement of existing gas & electric ranges with electric induction ranges. Please refer to the attached Plans and Appendices for additional information.
 3. WORKING DAYS. The work under this Contract is to be completed in **forty (40)** working days.
 4. CONTRACTOR'S LICENSE. Before submitting bids, Contractors shall be licensed in accordance with the provisions of the State Contractors' License Law, Business and Professions Code 7000 et seq. as amended. Bidder must have a California contractor's license, classification **Class B and/or C-20** (issued pursuant to Chapter 9, Division 3 of the California Business & Professions Code, which are currently active and in good standing) to bid this project. Attention is directed to the prohibitions and penalties pertaining to unlicensed contractors as provided in Business and Professions Code Sections 7028.15(a) and 7031.
 5. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REQUIREMENTS. This Contract will be subject to compliance monitoring and enforcement by the California Department of Industrial Relations, pursuant to Labor Code section 1771.4. Under California Labor Code section 1771.1, a contractor may not bid, nor be listed as a subcontractor, for any bid proposal submitted for a public work unless the contractor and its subcontractors are registered and qualified to perform public work pursuant to section 1725.5 of the Labor Code. The Bidder and its Subcontractors must be registered and qualified to perform public work pursuant to section 1725.5 of the Labor Code, subject to limited legal exceptions under Labor Code section 1771.1.
1. BID DEPOSIT. A Bid Deposit equal to ten percent (10%) of the total amount of the total bid shall be included in the Proposal. The Bid Deposit shall be in one of the following forms: cash, cashier's check or certified check payable to the City, or bidder's bond in favor of the City executed by an authorized surety company. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original by 5PM,

3 working days after the bid opening date shall cause the bid to be rejected and deemed **non-responsive**. Original Bid Bond shall be submitted to:

Public Works Department, Engineering Division
701 Laurel Street
Menlo Park, CA 94025
To the Attention of the Front Page of this solicitation.

2. BONDS REQUIREMENTS. Payment and performance guaranty bonds as set forth in Section 3-2 of the Special Provisions will be required from the successful bidder. A payment bond is required for a public works contract involving an expenditure in excess of twenty-five thousand dollars (\$25,000).
3. CITY'S RIGHT TO REJECT BIDS. The right is reserved, as the interest of the City may require, to reject any or all bids, or to waive any informality or minor irregularity in the bids.
4. GENERAL PREVAILING WAGE RATES. Pursuant to California Labor Code section 1771.4, this project is subject to prevailing wage requirements and related compliance monitoring by the California Department of Industrial Relations. A tabulation of the various classifications of workers to be employed and the prevailing rate of wages applicable thereto is on file in the office of the Public Works Director and is available from the California Department of Industrial Relations' website.
5. OBTAINING THE PROJECT PLANS AND SPECIFICATIONS. The Project Plans and Specifications may be downloaded at the website:
<https://pbsystem.planetbids.com/portal/46202/portal-home>.
6. OBTAINING THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, 2006 EDITION. The State of California Department of Transportation Standard Specifications and Standard Plans, 2006 Edition, may be purchased via fax, phone, or mail using [online order form](#) (pdf at <http://www.dot.ca.gov/dpac/doc/publications-order-form.pdf>) from the [State of California Department of Transportation Publication Distribution Unit](#), 1900 Royal Oaks Drive, Sacramento, CA 95815-3800; Telephone: (916) 263-0822; Fax: (916) 263-0470.
7. WITHDRAWAL OF PROPOSALS. Any bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of bids only by written request for the withdrawal of the bid filed with the Public Works Director. The request shall be executed by the bidder or his/her duly authorized representative. The withdrawal of a bid does not prejudice the right of the bidder to file a new bid. Whether or not bids are opened exactly at the time fixed in the public notice for opening bids, a bid will not be received after that time nor may any bid be withdrawn after the time fixed in the public notice for opening of bids, except as authorized by law.
8. RELIEF OF BIDDERS. As stated in Public Contract Code Sections 5100 to 5110, if the bidder claims a mistake was made in his/her bid, the bidder shall give the Public Works Director written notice within five (5) days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.
9. DISQUALIFICATION OF BIDDERS. More than one Proposal from an individual, firm, partnership, corporation, or combination thereof under the same or different names will not be considered. Reasonable grounds for believing that any individual, firm, partnership,

corporation or combination thereof is interested in more than one Proposal for the work contemplated may cause the rejection of all proposals in which such individual, firm, partnership, corporation or combination thereof is interested. If there is reason for believing that collusion exists among the bidders, any or all proposals may be rejected. Proposals in which the prices obviously are unbalanced may be rejected.

10. PREVIOUS DISQUALIFICATION, REMOVAL OR OTHER PREVENTION OF BIDDING. A bid may be rejected on the basis of a bidder, any officer of such bidder, or any employee of such bidder who has a proprietary interest in such bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local project because of a violation of law or a safety regulation.
11. RESPONSIBILITY FOR VERIFYING CONTRACT ADDENDA. All bidders shall verify if any addenda for this project have been issued by the City of Menlo Park. It is the bidder's responsibility to ensure that all requirements of Contract addenda are included in the bidder's Proposal.
12. ESCROW FOR SECURITY DEPOSIT IN LIEU OF RETENTION. Pursuant to Public Contract Code Section 22300, for monies earned by the Contractor and withheld by the City to ensure the performance of the Contract, the Contractor, may, at its option, choose to substitute securities meeting the requirements of said Public Contract Code Section 22300.
13. NON-DISCRIMINATION. Contractor shall not discriminate against any employee, subcontractor or applicant for employment because of race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition. Contractor will take affirmative action to ensure that employees are treated without regard to race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition.
14. PRE-BID MEETING AND DEADLINE FOR QUESTIONS. A non-mandatory, virtual pre-bid meeting will be held by the City per the details below:

Time: June 16, at 11:00 AM

Meeting link:

https://teams.microsoft.com/join/19%3ameeting_MDK5NTU0NDAtNzAyYS00NmQ1LTgzZWQtMjYzOGewZGJmMTFl%40thread.v2/0?context=%7b%22Tid%22%3a%2259151a0b-543f-4867-b241-b1aa41f062a3%22%2c%22Oid%22%3a%22b37adf6f-445a-4bb0-bed2-5644e13d4c5a%22%7d

Meeting ID: 260 096 551 171 31

Passcode: 6DD9EW26

OR

+1 323-886-7894

Phone conference ID: 740 972 618#

Any contractors interested in submitting bids for this project are encouraged to attend. Bidders shall have up to **Tuesday June 23, 2026, 5:00PM** to submit questions for the project. Bidders must upload their question via the project's Planetbids webpage to be

considered valid.

Proposal Forms

Proposal Submittal Checklist

This checklist is provided for reference only and is intended to assist bidders in the submittal of a bid proposal. **This checklist is not a part of the bid documents and shall not be submitted with the bid proposal.**

The following documents shall be signed and included with the bidders proposal:

1. Proposal
 - ☐ Company name and contact information is complete. In the case of a partnership or corporation, the business address is the address of the firm, not the address of the partner or official signing the Proposal
 - ☐ California Contractor's license number and classification filled in completely
 - ☐ DIR Registration numbers included
 - ☐ Signed
 - a. An individual doing business in his or her own name, sign name only
 - b. An individual using a firm name, sign name as an individual DBA (doing business as). For example: "John Doe, an individual doing business as XYZ Company."
 - c. A co-partnership, sign name as shown in this example: "XYZ Co., by John Doe, Copartner." Also, give the names of all individual copartners composing the firm.
 - d. A corporation, sign name with your title as in this example: "XYZ Co., by John Doe, President." Also, state legal name of corporation, names of the president, secretary, treasurer and manager of corporation. Affix seal of corporation.
2. Proposal Pay Item Price Schedule
 - ☐ Complete and correctly totaled
 - ☐ Add Alternate costs are included, if requested
3. Addenda Acknowledgement
 - ☐ Number of addenda entered
4. Bidder Certifications and Statements
 - ☐ Sign in all indicated locations
5. Bid Bond or Alternate Form of Bid Deposit
 - ☐ Signed and dated by Bidder and Surety
 - ☐ Signatures for Bidder and Surety are Notarized
 - ☐ Surety includes Power-of-Attorney
6. List of Subcontractors
 - ☐ Designated subcontractors are listed, if any
 - ☐ Subcontractors' DIR Registration Numbers are included
7. Mandatory Safety Program Requirements
 - ☐ Please complete and sign forms
8. Bidder's Financial Responsibility, Technical Ability & Experience
 - ☐ Only specific Form provided is used

- ☐ All required information is included
- ☐ Form is included with Bid

9. Bidder's Qualification Statement

- ☐ Response Sheets
 - ☐ Resumes for Key Personnel
-



**Proposal
to
City of Menlo Park
State of California

for**

BELLE HAVEN CHILD DEVELOPMENT CENTER ELECTRIFICATION PROJECT (CPB-025)

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____

CITY, STATE, ZIP: _____

LICENSE NO.: _____ CLASS: _____ EXP. DATE: _____

TAX I.D. NO.: _____

DIR REGISTRATION NO.: _____

TELEPHONE NO: () _____ FAX NO: () _____

EMAIL: _____

HOW DID YOU HEAR ABOUT THIS PROJECT _____

The work for which this Proposal is submitted is for construction in accordance with the Contract documents approved by the Assistant Public Works Director/City Engineer on **June 8, 2026**, entitled **Belle Haven Child Development Center Electrification Project (CPB-025)**. The State of California Department of Transportation Labor Surcharge and Equipment Rental Rates, and the State Department of Industrial Relations General Prevailing Wage Rates, current at the bid opening date, shall be used.

The project's scope of work is generally described in the "Notice to Contractors Inviting Bids" and per Section 4-2 of the General Provisions herein. Bidders shall also refer to the project's construction drawings, included per these Appendices, and the following sections of these specifications, regarding the scope of work in this contract.

Cash, cashier's check or certified check payable to the City, or a bidder's bond executed by an admitted surety insurer naming the City as beneficiary, in an amount equal to ten percent (10%) of the total bid amount including all alternatives shall accompany this Proposal. A list of subcontractors for work in the excess of one half of one percent (0.5%) of the total Contract, or ten-thousand (\$10,000), whichever is greater per page 29 of the total bid amount including all alternatives and a statement of financial responsibility, technical ability, and experience if such information is not already on file with the City shall accompany this Proposal; and be completely filled in by the bidder and the same are incorporated herein by reference. The project shall be awarded to the lowest responsive and responsible bidder who meets all of the Proposal Requirements, and the requirements of the Contract Documents.

Failure to provide the required information, or if information provided is subsequently proved false,

the Proposal may be considered as non-responsive and may be grounds for rejection of the bid.

After acceptance of this Proposal and award of the Contract, if the undersigned should fail to contract as aforesaid or should fail to give the "Performance" Surety Bond in the sum of one hundred percent (100%) of the Contract bid, along with the required Bonds, along with the Certificate of Insurance covering public liability and property damage in the amounts specified in the Construction Contract, to the City of Menlo Park within twelve (12) days, not including Sundays and legal holidays, after the Bidder has received notice from the City that the Contract has been awarded, the City may, at its option, determine that the bidder has abandoned the Contract, thereupon this Proposal and the acceptance thereof shall be null and the forfeiture of such security accompanying this Proposal shall operate and the same shall become the property of the City of Menlo Park.

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other person, firm or corporation; that he/she has carefully examined the location of the proposed work, the proposed Contract, and the Plans and Specifications therein referred to; that he/she proposes and agrees if this Proposal is accepted, that he/she will contract with the City of Menlo Park, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract, in the manner and time therein prescribed and according to the requirements of the Engineer as therein set forth, and that he will accept in full payment therefore the following unit prices, to wit:

PAY ITEM PRICE SCHEDULE

Bids are required for the entire work. Unless otherwise specified in the Special Conditions, the amount of the bid for comparison purposes will be the total of all base bid items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

The Bidder shall set forth for each item of work, in clearly legible figures, an item price and a total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Total" column shall be the extension of the item price bid on the basis of the estimated quantity for the item.

In case of discrepancy between an item price and total set forth for the item, the item price shall prevail, provided however, if the amount set forth as an item price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case of unit basis items, is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the item price.
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the item price.

The following shall be signed and submitted as part of bidder's proposal. Failure to do so may deem the bid as non-responsive.

BIDDER'S STATEMENT

The undersigned declares, by signature, that their bid figures are accurate and have been carefully checked. Furthermore, the undersign accepts that the City shall not be responsible for any errors or omissions on the part of the undersigned in making up their bid. The undersigned hereby acknowledges the following provisions with their bid.

That the Base and Alternate Bid Items will be considered in accordance with Section 3-1.2, "Add Alternate Consideration," of the project Special Provisions.

That the estimate of construction quantities set forth herein, and per Planetbids, is approximate only, being given as a basis for the comparison of bids. The City does not expressly or by implication agree that the actual amount of work will correspond therewith, and reserves the right to change the amount of any class or portion of the work or to omit portions of the work as may be deemed necessary or expedient in accordance with the Special Provisions.

That the City reserves the right to increase or decrease quantities as deemed necessary.

Date: _____

(Type or print name)

Signature of Bidder

The Project Bid Schedules on these sheets is FOR REFERENCE ONLY and will not be used to evaluate bid results. Bids shall be submitted via the City's Planetbids portal

Base Bid Items							
Item No.	Sec. No.	Description	Units	Estimated Quantity	Item Price per Unit of Quantity (In words)	Item Price per Unit (In figures)	Total (In figures)
Base Bid Items							
1	9	Mobilization & Demobilization	LS	1		\$	\$
2	9	Demolition & Equipment Removal	LS	1		\$	\$
3	9	Ductwork (N), Ductwork Modifications, & Ductwork Insulation	LS	1		\$	\$
4	9	Admin Ceiling - Modify & Repair	LS	1		\$	\$
5	9	Classroom Access Hatch – Modify as Necessary, New Casework & Doors	EA	4		\$	\$
6	9	Classroom HVAC Systems, Pressure Relief Valves, Thermostats, & Accessories – Furnish & Install	EA	4		\$	\$
7	9	Admin HVAC System, Pressure Relief Valves, Thermostat & Accessories - Furnish & Install	LS	1		\$	\$
8	9	(N) Roof Penetrations, Patching, Repairing, Flashing, & Waterproofing	EA	4		\$	\$
9	9	HVAC Remote Control Systems & BMS Integration	LS	1		\$	\$
10	9	Testing & Balancing	LS	1		\$	\$
11	9	Electrical Work, Power Connections & Low Voltage Wiring (0-10V)	LS	1		\$	\$
12	9	Mini Split at IT Electrical room, Including Power Supply, Furnish & Install	LS	1		\$	\$
13	9	New LED Lighting and Fixtures for Classroom and MPR – Furnish & Install	LS	1		\$	\$
14	9	Interior Lighting Controls – Furnish & Install, Modify	LS	1		\$	\$
15	9	Exterior Wall and Pole Mounted Fixtures	LS	1		\$	\$
16	9	Electric Induction Ranges - Furnish & Install	EA	3		\$	\$
17	9	Dishwashers – Furnish & Install	EA	3		\$	\$
Base Bid Subtotal (Base Bid Items 1-17)			(in words)			\$	

ADDENDA ACKNOWLEDGEMENT

The undersigned acknowledges receipt of Addendum number _____ through _____ inclusively.

Date: _____

(Type or print name)

Signature of Bidder

Bidder Certifications and Statements

The following certifications, statements and responses are hereby incorporated into the Proposal:

Principal Persons with Interest in Proposal

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 legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

Public Contract Code Section 10285.1 Statement

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____/has not ____ been convicted within the preceding three years of any offenses referred to in that Section. These offenses include any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works Contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100,. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In accordance with Public Contract Code Section 10162, the bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or safety regulation?

YES _____ NO _____

If the answer is yes, explain the circumstances in the following space:

Public Contract Code Section 10232 Statement

In accordance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Workers Compensation Requirement

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

Registration of Contractors

Before submitting bids, Contractors shall be licensed in accordance with the provisions of the State Contractors' License Law, Business and Professions Code 7000 et seq. as amended. Pursuant to California Labor Code section 1771.4, the project that is the subject and purpose of this contract is subject to prevailing wage compliance monitoring by the California Department of Industrial Relations.

Pursuant to California Labor Code section 1771.1, by execution below, the Bidder and its Subcontractors certify that they are registered and qualified to perform public work pursuant to section 1725.5 of the California Labor Code, subject to limited legal exceptions.

Affidavit of Noncollusion

Title 23, United States Code, Section 112 Noncollusion and Public Contract Code Section 7106

In accordance with Title 23, United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the Contract on anyone interested in the proposed Contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Statements, Questionnaire, and Non-collusion Affidavit are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statements, Questionnaire and Non-collusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Debarment and Suspension Certification

The bidder, under penalty of perjury, certifies that, except as noted below, they or any person associated therewith in the capacity of owner, partner, director, officer, manager (please check if applicable):

- ☐ Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any state or federal agency;
- ☐ Has not been suspended, debarred, voluntarily excluded or determined ineligible by any state or federal agency within the past three (3) years;
- ☐ Does not have a proposed debarment pending; and
- ☐ Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

If there are any exceptions to this certification, insert the exceptions in the following space:

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action:

Note: Providing false information may result in criminal prosecution or administrative sanction. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

By my signature on this Proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this Proposal I further certify, under penalty of the perjury under the laws of the State of California that the Non-Collusion Affidavit, and the Debarment and Suspension Certification are true and correct.

Date: _____ (Type or print name)

Signature of Bidder

Business Address (Street Address, City, State & Zip Code):

Business Phone: () _____

Fax No.: () _____

State of California }
County of _____ } ss.

Contractor

WITNESS my hand and official seal.

Notary Public

(Seal)

Subscribed and sworn to before me this

_____ day of _____, 20____

Notary Public in and for the County of _____, STATE OF CALIFORNIA



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Bid Bond

Note: Bidders may use this form as the Bid Bond to accompany proposals or may substitute standardized bond forms prepared by their surety. If substitute forms are submitted, the following text shall be included.

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Menlo Park, hereinafter called "City", in penal sum of ten percent (10%) OF THE TOTAL AMOUNT OF THE PROPOSAL submitted to the said City for the work described below for the payment of which sum in lawful money of the United States, 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 whereas the Principal has submitted the accompanying Proposal dated _____, 20__, for the **Belle Haven Child Development Center Electrification Project (CPB-025).**

NOW, THEREFORE, if the Principal shall not withdraw said Proposal prior to the date and time for the opening of bids, and if the Principal is awarded the Contract and shall within the period specified in the Proposal after receiving notice that the Contract has been awarded and the prescribed forms are presented to him/her for signature, enter in a written Contract with the City, in accordance with the Proposal as accepted and give insurance and bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Proposal within the period specified or the failure to enter into such Contract and give such City bonds, within the time specified, if the Principal shall pay the City the difference between the amount specified in said Proposal and the amount for which the City may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the City in again calling for bids, then the above obligation shall be voided and of no effect, otherwise to remain in full force and virtue.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise 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 to the work, or to the specifications.

In the event suit is brought upon this bond by the City and judgment is recovered, the Surety shall pay all costs incurred by the City in such suit, including a reasonable attorney's fee to be fixed by the court.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

(Corporate Seal)

Principal
By: _____

(Acknowledgment)

Title: _____

(Corporate Seal)

Surety
By: _____
Attorneys-in-fact

(Acknowledgment)

Title _____

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

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY

STATE OF CALIFORNIA }
 } ss.
COUNTY OF _____ }

On _____, before me, _____ a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Alternate Form of Bid Deposit

Note: Bidders may use this form as the Bid Deposit to accompany proposals when submitting a cashier's check or a certified check, which must accompany this form.

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, as Principal, are held and firmly bound unto the City of Menlo Park, hereinafter called "City", in penal sum of ten percent (10%) OF THE TOTAL AMOUNT OF THE PROPOSAL submitted to the said City for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE EXACT FORM OF THIS DEPOSIT is as hereby described as: _____

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas the Principal has submitted the accompanying Proposal dated _____, 20__, for the **Belle Haven Child Development Center Electrification Project (CPB-025).**

NOW, THEREFORE, if the Principal shall not withdraw said Proposal prior to the date and time for the opening of bids, and if the Principal is awarded the Contract and shall within the period specified in the Proposal after receiving notice that the Contract has been awarded and the prescribed forms are presented to him/her for signature, enter in a written Contract with the City, in accordance with the Proposal as accepted and give insurance and bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Proposal within the period specified or the failure to enter into such Contract and give such City bonds, within the time specified, if the Principal shall pay the City the difference between the amount specified in said Proposal and the amount for which the City may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the City in again calling for bids, then the above obligation shall be voided and of no effect, otherwise to remain in full force and virtue.

Principal hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation, 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 to the work, or to the specifications.

In the event suit is brought upon this Deposit by the City and judgment is recovered, all costs incurred by the City in such suit, including a reasonable attorney's fee to be fixed by the court shall also be added to the judgment award and be payable from the funds or instrument constituting this Deposit.

By: _____

Name: _____

Title:

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

STATE OF CALIFORNIA }

COUNTY OF } ss.

On _____, before me, _____, a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)

List of Subcontractors

Per sections 4100-4114 of the Public Contracts Code, the Bidder shall list the name, California Contractor license number, address and telephone number of each subcontractor to whom the Bidder proposes to subcontract portions of the work in the excess of 0.5% of the total Contract, or \$10,000, whichever is greater.

NOTE: No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to section 1725.5 of the Labor Code, subject to limited legal exceptions under Labor Code section 1771.1.

Subcontractor Information	Description of Work	Subcontractor License No.	DIR Registration Number
Name: Number: Address:			
Name: Number: Address:			
Name: Number: Address:			
Name: Number: Address:			
Name: Number: Address:			
Name: Number: Address:			

(Bidder to attach additional sheets if necessary)

Mandatory Safety Program Requirements

The City of Menlo Park requires that to be considered a responsive bid, that all bidders meet the following safety qualification guidelines. The bidder's sub-consultant or sub-contractor shall be exempt from this section unless otherwise requested by the Engineer in writing. **Failure to provide the safety data sheets will result in a non-responsive bid.**

All Bidders must satisfy at least two of the three safety standards identified below. If a BIDDER cannot satisfy two of the three minimum safety standards, the City will consider a bid from BIDDER meeting only one of the minimum safety standards, however the BIDDER will be required to provide the services of a third-party safety consultant specializing in the type of work to be performed that is acceptable to the Engineer. The City will not be responsible for any additional costs incurred for providing the third-party safety consultant and BIDDER shall include such costs in its bid. The third-party safety consultant will be used in the capacity of reviewing the Contractor's Site Safety and Project Safety Plans, providing periodic monitoring of site safety at a frequency to be determined by the Engineer, reviewing special safety hazards not addressed in the Contractor's safety plans and reviewing and evaluating the safety incidents that occur during the project.

City of Menlo Park Minimum Safety Standards:

1. Experience Modification Rate (EMR or Exmod): Experience modification rates are calculated by the insurance industry as a way to determine equitable workers' compensation insurance premiums. It is calculated as a three-year moving average. A BIDDER shall have a current three-year average EMR of **1.0** or lower.
2. Recordable Incident Rate (RIR): The RIR is a measure of the frequency of injuries and is a measure of all occupational injuries and illnesses that occur within an organization. It is calculated from the OSHA Log 300 form. A BIDDER shall have a current three-year average RIR of **7.0** or lower.
3. Lost Time Incident Rate: The LTIR is an indicator of the severity of a company's occupational injuries. The LTIR deals only with incidents that result in lost work time. Like the RIR, the information needed to calculate the LTIR is derived OSHA Log 300 form. A BIDDER shall have a current three-year average RIR of **4.6** or lower.

All Bidders shall complete and submit the following forms and release with its bid.

Mandatory Safety Program Requirements Experience Modification Rate

The following information will be used to determine if you meet the minimum safety requirements for this project.

You must not have a three-year average Workers' Compensation Experience Modification Rate (Ex-mod) greater than **1.0**. Please provide verification of your Ex-mod from your insurer in your proposal and provide your current Ex-mod below:

Enter your Experience Modification Rate for the last three complete years (available from your insurance carrier).

20_____ EMR = _____

20_____ EMR = _____

20_____ EMR = _____

THREE-YEAR AVERAGE = _____

Mandatory Safety Program Requirements Recordable incident rate

The following information will be used to determine if you meet the minimum safety requirements for his project. To qualify, you must not have a three-year average Recordable Incident Rate greater than **7.0**. Incident rate information is on your OSHA Log 300. Please calculate the RIR for the last three complete years as follows.

$$\frac{\text{Total number of recordable incidents} \times 200,000}{\text{Total employee hours worked}} = \text{RIR}$$

Recordable incidents

Year	Number
20____	_____
20____	_____
20____	_____

Total Employee Hours Worked

Year	Hours
20____	_____
20____	_____
20____	_____

Enter your Total Recordable Incident Rate for each of the last three complete years.

20____ RIR = _____

20____ RIR = _____

20____ RIR = _____

Three-Year Average = _____

Mandatory Safety Program Requirements **Lost time incident rate**

The following information will be used to determine if you meet the minimum safety requirements for this project. To qualify, you must not have a three-year average Lost Time Incident Rate greater than **4.6**. Incident rate information is on your OSHA Log 300. Please calculate the LTIR for the last three complete years as follows.

$$\frac{\text{Total number of lost-time incidents} \times 200,000}{\text{Total employee hours worked}} = \text{LTIR}$$

Lost-time Incidents

Year	Number
20_____	_____
20_____	_____
200_____	_____

Total Employee Hours Worked

Year	Hours
20_____	_____
20_____	_____
20_____	_____

Enter your Lost Time Incident Rate for each of the last three complete years.

20_____ LTIR = _____

20_____ LTIR = _____

20_____ LTIR = _____

Three-Year Average = _____

**Mandatory Safety Program Requirements
Authorization to Disclose Information**

To verify the information provided in your bid packet, we may contact your workers' compensation insurance company, agent, broker, safety consultants, or other related parties. Please provide your authorization to release this information. Failure to do so will result in automatic disqualification.

I authorize my insurance company, agent or broker, as well as any other party with knowledge of the Company's safety record, to disclose to the City of Menlo Park information concerning the Company's insurance coverage, claims, and safety record, including the Workers' Compensation Experience Modification Rate, Recordable Incident Rate, Lost Time Incident Rate, OSHA 300 log, claims history, or other safety issues or factors related to the Company's operations.

Company Name: _____

Authorized By: _____ Title: _____

Signature: _____ Date: _____

This authorization shall remain in effect for the duration of the project or one year from date of signature. A copy of the authorization shall be as valid as the original.

Agent or Broker: _____

Address: _____

Contact Name: _____ Phone: _____

Contact Email Address: _____

Safety Personnel or Consultant: _____

Contact Person: _____ Phone: _____

Contact Email Address: _____

Bidder's Financial Responsibility, Technical Ability & Experience

THE BIDDER SHALL FURNISH EVIDENCE OF FINANCIAL RESPONSIBILITY AND ABILITY TO PERFORM THE WORK INCLUDED IN THIS PROPOSED CONTRACT. SUCH EVIDENCE MAY INCLUDE, BUT NOT BE LIMITED TO, A FINANCIAL STATEMENT AS OF THE DATE OF BID; A STATEMENT, WITH REFERENCES, OF THREE COMPLETED PROJECTS OF A SCOPE & PRICE SIMILAR TO THAT INCLUDED HEREIN; A STATEMENT OF THE LAST THREE PROJECTS PERFORMED REGARDLESS OF THEIR CHARACTER; AND SUCH OTHER INFORMATION WHICH WILL ENABLE THE PUBLIC WORKS DIRECTOR TO JUDGE THE BIDDER'S RESPONSIBILITY, EXPERIENCE, SKILL AND BUSINESS STANDING.

The bidder has been engaged in the contracting business under State License No. _____ for a period of years and has the following DIR Registration No. _____.

The bidder's three recently completed projects similar to the work outlined by section -11 General of these special provisions for a Public Agency in the State of California:

1. Title of Project: _____

Owner: _____

Address: _____

Telephone No.: _____

Engineer in Charge: _____

Date Accepted: _____

2. Title of Project: _____

Owner: _____

Address: _____

Telephone No.: _____

Engineer in Charge: _____

Date Accepted: _____

3. Title of Project: _____

Owner: _____

Address: _____

Telephone No.: _____

Engineer in Charge: _____

Date Accepted: _____

Reference is hereby made to the following bank or banks as to the financial responsibility of the bidder:

Name of Bank	Address
_____	_____
_____	_____

Reference is hereby made to the following surety companies as to the financial responsibility and general reliability of the bidder:

Company: _____

Address: _____

Company: _____

Address: _____

Bidder's Qualification Statement

All Prospective Bidders **must** submit the Qualification Statement (QS) herewith along with the Bid Package.

Qualifications Statement Requirements: Prospective Bidders shall submit all information and forms specified in the Qualifications Statement, including the Response Sheets and resumes for key personnel. Failure to provide the required responsibility information as indicated herewith shall constitute grounds for rejection of the QS.

Review of the Qualifications Statement: All information submitted for qualification evaluation will be considered official information acquired in confidence and the City will maintain its confidentiality to the extent permitted by law.

The City and/or its designee will review and evaluate the information contained in each Prospective Bidder's QS within five (5) days and notify Prospective Bidders, whether their QS is found responsive and responsible for this project. The sole and discretionary judgment of the City and/or its designee will determine if a Prospective Bidder is deemed responsible and responsive.

Protesting a Disqualification: Prospective Bidders who are disqualified for this project, may submit a protest to the City. This protest must be submitted in writing and must provide a basis or grounds for the protest. This written protest must be received by the City within five (5) days of the date the City issues a disqualification notification. Please see section 3-1.1 for procedure to protest award of contract.

Response Sheets

Please answer the following questions and sign the Qualification Statement certification for **Belle Haven Child Development Center Electrification Project (CPB-025)** :

Contractor will be immediately disqualified if the answer to any of questions 1 through 3 is "No."

- A. Contractor has a liability insurance policy with a policy limit of at least \$2,000,000 per occurrence and \$4,000,000 aggregate.
☐ Yes ☐ No

- B. Contractor has current workers' compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.
☐ Yes ☐ No

- C. Contractor's Field Superintendent/Foreman has a minimum of five (5) years of construction experience doing similar scope of work per the project description, each with a minimum construction value of \$100,000. Please attach a copy of a resume of the proposed Field Supervisor/Foreman, detailing the similar project descriptions, project responsibilities, relevant experience, and project owner references including current contact information.
☐ Yes ☐ No

Contractor may be disqualified if the answer to any of questions 4 through 15 is "Yes". Explanation deemed to be Assistant Public Works Director/City Engineer

- D. Has your contractor's license been revoked at any time in the last five (5) years?
☐ Yes ☐ No

- E. Has a surety firm completed a contract on your behalf, or paid for completion because your firm was default terminated by the project owner within the last five (5) years?
☐ Yes ☐ No

- F. At the time of submitting this Qualification Statement, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to Labor Code section 1777.1.
☐ Yes ☐ No

- G. At any time during the last five (5) years, has your firm or any of its officers been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?
☐ Yes ☐ No

- H. Was your firm in bankruptcy at any time during the last five (5) years?
☐ Yes ☐ No

- I. Has your firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?
☐ Yes ☐ No

- J. Has your firm or any of its owners, officers or partners ever been convicted of a crime involving any federal, state, or local law related to construction?
☐ Yes ☐ No
- K. Has your firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?
☐ Yes ☐ No
- L. Defaulted on a contract forcing a surety to suffer a loss?
☐ Yes ☐ No
- M. Had any mediation or arbitration on a contract initiated by the owner/public agency?
☐ Yes ☐ No
- N. Has the Contractor been fined, penalized or otherwise found to have violated any State or Federal fair employment provision or law?
☐ Yes ☐ No
- O. Has the Contractor been fined, penalized or otherwise found to have violated any prevailing wage provisions?
☐ Yes ☐ No

Explanation field for the ones they answered yes are subject for review, and not automatically disqualified.

Qualifications Statement Certification. The Undersigned declares under penalty of perjury that all of the responsibility information submitted with this form is true and correct and that this Declaration was executed by a duly authorized officer of the Company.

Signature _____

Typed or Printed Name and Title _____

Firm Name _____

Address _____

Telephone Number _____ Fax Number _____

QS Contact Email Address: _____

Agreement Forms

Construction Agreement

City Manager's Office
701 Laurel St., Menlo Park, CA 94025
tel 650-330-6620



Agreement #:
AGREEMENT FOR SERVICES BETWEEN THE CITY OF MENLO PARK AND _____
THIS CONSTRUCTION CONTRACT ("Contract") is made and entered into this ____ day of _____, _____ ("Execution Date") by and between the CITY OF MENLO PARK, a California municipal corporation, ("City") and _____ ("Contractor").
RECITALS
A. Contractor is a _____ duly organized and in good standing in the State of California, License Number _____. Contractor represents and warrants that it has the background and experience set forth in the Contractor's responses to the notice inviting bids. B. Contractor represents that it is duly licensed by the State of California and has the background, knowledge, experience and expertise to perform the obligations set forth in this Contract. C. On _____ the City issued a Notice to Contractors inviting bids for the Project. A copy of the Contractor's Bid proposal and List of Subcontractors is attached herein and incorporated by this reference. D. The City desires to retain Contractor as an independent contractor to provide the construction and other services identified in this Contract for the Project upon the terms and conditions contained herein.
AGREEMENT
NOW, THEREFORE, in consideration of performance by the parties of the promises, covenants and conditions contained herein, the parties hereby agree as follows: 1. DEFINITIONS. Capitalized terms used throughout the Contract Documents shall have the meanings set forth in this Contract and/or the Special Provisions. If there is a conflict between the definitions in this Contract and the Special Provisions, the definitions in this Contract shall prevail. 2. PROJECT. The project is the construction of _____ ("Project"). The work includes all labor, materials, equipment, services, permits, licenses and taxes, and all other things necessary for Contractor to perform its obligations and complete the Project, including, without limitation, any Change Orders executed by City and Contractor in accordance with the requirements of the Contract Documents ("Work"). Contractor shall permit City (or its designees) access to the work area, Contractor's shop, or any other facility, to permit inspection of the Work at all times during construction and/or manufacture and fabrication. The granting of any progress payment, and any inspections, reviews, approvals or oral statements by any City representative, or certification by any governmental entity, shall in no way limit Contractor's obligations under the Contract Documents. 3. CONTRACT DOCUMENTS. 3.1 List of Documents. The Contract Documents (sometimes collectively referred to as "Agreement" or "Bid Documents") consist of the following documents which are on file with the Public Works

Department and are hereby incorporated by reference.

- 1) Subcontractors List
- 2) Change Orders
- 3) Field Orders
- 4) Construction Agreement
- 4) Bidding Addenda
- 5) Special Provisions
- 6) Project Plans and Drawings
- 7) Technical Specifications
- 8) City Standard Details
- 9) State of California Department of Transportation Specifications, 2006 Edition (Cal Trans specifications)
- 10) Notice to Contractors
- 11) Contractor's Bid
- 12 Bidder Certifications, Questionnaire and Statements
- 13) Reports listed in the Contract Documents
- 14) City of Menlo Park Waste Management Form, Waste Management Daily Transport Report
- 15) City of Menlo Park Truck Route Map and Regulations
- 16) Performance, Payment and Maintenance Bonds

- 3.2 Order of Precedence. For the purposes of construing, interpreting and resolving inconsistencies between and among the provisions of this Contract, the Contract Documents shall have the order of precedence as set forth in the preceding section. If a claimed inconsistency cannot be resolved through the order of precedence, the City shall have the sole power to decide which document or provision shall govern as may be in the best interests of the City.
4. PERMITS. Contractor, at its sole expense, shall obtain and maintain during the term of this Contract, all appropriate permits, licenses and certificates that may be required in connection with the performance of the Work, including, but not limited to, a City business license.
5. DEPARTMENT OF INDUSTRIAL RELATIONS. Pursuant to Labor Code Section 1771(a), Contractor represents that it and all of its Subcontractors are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Contractor covenants that any additional or substitute Subcontractors will be similarly registered and qualified. This Project is subject to compliance monitoring and enforcement by the DIR. It is the responsibility of the Contractor to ensure all DIR requirements and regulations are met and stay current. For more information, see <http://dir.ca.gov/Public-Works/SB854.html>.
6. TERM. This Contract is effective on the Execution Date set forth in the initial paragraph of this Contract and shall remain in effect until the Project has been satisfactorily completed by Contractor, unless earlier terminated pursuant to the terms of this Contract.
7. TIME OF COMPLETION. Time is of the essence with respect to all time limits set forth in the Contract Documents. Contractor shall commence the Work on the date specified in the City's Notice to Proceed. Contractor shall diligently prosecute the Work to Substantial Completion within ____ working days after the date specified in the City's Notice to Proceed ("Contract Time"). The Contract Time may only be adjusted for extensions of time approved by the City and agreed to by Change Order executed by City and Contractor in accordance with the requirements of the Contract Documents.
8. COMPENSATION. The City agrees to compensate Contractor for its satisfactory completion of the Work in compliance with the Contract Documents for the not to exceed amount of _____ (\$ _____) ("Contract Sum"). Payment shall be as set forth in the Plans,

Special Provisions and/or Technical Specifications. The Contract Sum may only be adjusted by Change Orders issued, executed and satisfactorily performed by Contractor in accordance with the requirements of the Contract Documents. The Contract Sum shall be adjusted (upward or downward) only to account for Change Orders. The Contract Sum is and shall be full compensation for all Work performed by Contractor. The Contract Sum shall cover all losses arising out of the nature of the Work or from the elements or any unforeseen difficulties or obstructions which may arise or be encountered in performance of the Work until its Acceptance by the City, all risks connected with the Work and any and all expenses incurred due to the suspension or discontinuance of the Work.

Should the City withhold retention in connection with the Work, Contractor may elect to substitute securities or direct payment to an escrow account, pursuant to Public Contract Code Section 22300 (incorporated herein by this reference).

Contractor shall submit all billings with all necessary invoices or other appropriate evidence of proper performance, after which City shall make payment within thirty (30) days. Upon City's written request, Contractor shall make available to City, its authorized agents, officers, or employees, any and all ledgers, books of accounts, invoices, vouchers, cancelled checks, and other records or documents evidencing or relating to the Work or the expenditures and disbursement charged to City, and all correspondence, internal memoranda, calculations, books and accounts, records documenting its Work under the Agreement, and invoices, payrolls, timecards, records and all other data related to matters covered by the Agreement. Contractor shall furnish to City, its authorized agents, officers, or employees, such other evidence or information as City may require with regard to the Work or any such expenditure or disbursement charged by Contractor.

CONTRACTOR Shall bill each month to City an original invoice for all Services performed and expenses incurred during the preceding month. Each such invoice shall contain the total agreement amount subtracting the invoices paid and billing. By submitting an invoice for payment under this Agreement, CONTRACTOR is certifying compliance with all provisions of the Agreement. CONTRACTOR shall not invoice City for any duplicate Services performed by more than one person. City shall independently review each invoice submitted by CONTRACTOR to determine whether the Services performed and expenses incurred are in compliant with the provisions of this Agreement. City will use its best efforts to cause CONTRACTOR to be paid within thirty (30) days of receipt of CONTRACTOR's correct and undisputed invoice, except as to any charges for Services performed or expenses incurred by CONTRACTOR which are disputed by City, or as provided in Section 6.3. In the event any charges or expenses are in dispute by City, the original invoice shall be returned by City to CONTRACTOR for correction and resubmission. Review and payment by City of any invoice provided by CONTRACTOR shall not constitute waiver of any rights or remedies provided herein or any applicable law. Consultant shall bill the City as services are complete. City reserves the right to deny payment to CONTRACTOR for any invoice submitted is more than 90 days after performance of Services or expenses incurred by CONTRACTOR.

9. **STANDARD OF PERFORMANCE.** As a material inducement to the City to enter into this Contract, Contractor hereby represents and warrants that it has the qualifications and experience necessary to undertake the Work to be provided and the Project to be completed pursuant to this Contract. Contractor agrees that the Work shall be performed by qualified, experienced and well-supervised personnel. The Work performed pursuant to this Contract shall be performed in a manner consistent with the standard of care under California law applicable to those who specialize in providing such services for projects of the type, scope and complexity of the Project.
10. **COMPLIANCE WITH LAW.** This Project constitutes a public work within the meaning of California Labor Code Section 1720 et. seq. and is subject to prevailing wage laws. Contractor shall pay prevailing wages to its employees on any contract in excess of \$1,000.00. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations,

are on file at the City's Public Works Department and may be obtained from the California Department of Industrial Relations website [<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>]. Contractor shall comply with the 8-hours per day/40 hours per week/overtime/working hours restrictions for all employees, pursuant to the California Labor Code. Contractor and all subcontractors shall keep and maintain accurate employee payroll records for Work performed under the Agreement. The payroll records shall be certified and submitted as required by law, including Labor Code Sections 1771.4 (if applicable) and 1776, including to the Labor Commissioner no less frequently than monthly. Contractor shall comply fully with Labor Code Section 1777.5 in the hiring of apprentices for work relating to this Agreement. The Work performed by Contractor pursuant to this Contract shall be provided in accordance with all ordinances, resolutions, statutes, rules and regulations of the City, and any federal, state or local governmental agency having jurisdiction in effect at the time the work is rendered.

11. REPRESENTATIVE. _____ is hereby designated as the project manager/superintendent/foreman of Contractor authorized to act on its behalf with respect to the Work specified in this Contract. It is expressly understood that the experience, knowledge, capability and reputation of _____ were a substantial inducement for City to enter into this Contract. Therefore, _____ shall be responsible during the term of this Contract for directing all activities of Contractor and devoting sufficient time to personally supervise the services hereunder. The representative may not be changed by Contractor without the express written approval of the City.

12. LIQUIDATED DAMAGES.

12.1 Entitlement. City and Contractor acknowledge and agree that if Contractor fails to fully and satisfactorily complete the Work within the Contract Time, the City will suffer, as a result of Contractor's failure, substantial damages which are both extremely difficult and impracticable to ascertain. Such damages may include, but are not limited to: (a) loss of public confidence in the City and its contractors; (b) loss of public use of public facilities; and (c) extended disruption to public.

12.2 Daily Amount. City and Contractor have reasonably endeavored, but failed, to ascertain the actual damage that the City will incur if the Contractor fails to achieve Substantial Completion of the Work within the Contract Time. Therefore, the parties agree that in addition to all other damages to which the City may be entitled other than delay damages, in the event the Contractor shall fail to achieve Substantial Completion of the Work within the Contract Time, Contractor shall pay City as liquidated damages the amount of _____ Dollars (\$_____) per day for each calendar day after the expiration of the Contract Time until Contractor achieves Substantial Completion of the Work. The liquidated damages amount is not a penalty, but a reasonable estimate of the amount of damages the City will suffer.

Liquidated damages for delay shall cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by City as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from City (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof. City may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages.

12.3 Apportionment. Such liquidated damages shall be subject to reduction for delays for which Contractor is entitled to receive an extension of time under the Contract Documents ("Apportionment"). Such Apportionment shall not be affected by the fact that liquidated damages may not be applied for periods of time during which delays have occurred that are caused by both

City and Contractor. It is agreed that the liquidated damages shall not be applied for portions of the Work completed prior to the expiration of the Contract Time.

12.4 Exclusive Remedy. City and Contractor acknowledge and agree that this Section 11, Liquidated Damages, shall be the City's only remedy for delay damages caused by the Contractor's failure to achieve Substantial Completion of the Work within the Contract Time.

12.5 Damages upon Abandonment. In the event that the Contractor either abandons the Work or is terminated for default in accordance with the provisions of this Contract, City shall have the right, in its sole discretion exercised by written notice issued either before or after Substantial Completion, to elect to either assert or waive its right to liquidated damages. If City elects to assert its right to liquidated damages, then the liquidated damages shall be calculated from expiration of the Contract Time to the date that Substantial Completion of the Work is achieved by the City or its replacement contractor employed to complete Contractor's performance. If City elects to waive its right to liquidated damages, then Contractor shall be liable to the City, in lieu of the liquidated damages, for all actual Losses (as defined in the General Conditions) proximately resulting from Contractor's failure to complete the Work within the Contract Time.

12.6 Other Remedies. The parties further acknowledge and agree that the City is entitled to any and all available legal and equitable remedies City may have where City's Losses are caused by any reason other than Contractor's failure to achieve Substantial Completion of the Work within the Contract Time.

13. INDEPENDENT CONTRACTOR. Contractor is, and shall at all times remain as to the City, a wholly independent contractor and not an agent or employee of the City. Contractor shall receive no premium or enhanced pay for work normally understood as overtime, nor shall Contractor receive holiday pay, sick leave, administrative leave, or pay for any other time not actually worked. The intention of the parties is that Contractor shall not be eligible for benefits and shall receive no compensation from the City except as expressly set forth in this Contract. Contractor shall have no power to incur any debt, obligation, or liability on behalf of the City or otherwise act on behalf of the City as an agent. Neither the City, nor any of its agents shall have control over the conduct of Contractor, any of Contractor's employees, or any subcontractors, except as set forth in this Contract. Contractor shall at no time, or in any manner, represent that it or any of its agents or employees or subcontractors are in any manner employees of the City. Contractor agrees to pay all required taxes on amounts paid to Contractor under this Contract, and to indemnify and hold the City harmless from any and all taxes, assessments, penalties, and interest asserted against the City by reason of the independent contractor relationship created by this Contract. Pursuant to Labor Code Sections 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is aware of the provisions of Labor Code Section 3700 that 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 Contractor shall comply with such provisions before commencing the performance of the Work. Contractor further agrees to indemnify and hold the City harmless from any failure of Contractor and any subconsultants to comply with applicable worker's compensation laws.

14. COMPLIANCE WITH LAWS; CONFLICT OF INTEREST. Contractor agrees to comply with all applicable federal and state laws, regulations and policies, as amended, including those regarding discrimination, unfair labor practices, anti-kick-back, collusion, and the provisions of the Americans with Disability Act. Contractor shall not engage in unlawful employment discrimination including, but not limited to, discrimination based upon a person's race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, gender, citizenship, sexual orientation, or sexual identity as prohibited by state or federal law. Contractor covenants that it presently has no

interest and shall not acquire any interest, direct or indirect, which may be affected by the work to be performed by Consultant under this Contract, or which would conflict in any manner with the performance of its services hereunder. Contractor further covenants that, in performance of this Contract, no person having any such interest shall be employed by it. Contractor, its officers, partners, associates, agents, and employees, shall not make, participate in making, or in anyway attempt to use the position afforded them by the Contract Documents to influence any governmental decision in which he or she knows or has reason to know that he or she has a financial interest under applicable state, federal and local conflict of interest regulations. Furthermore, Contractor shall avoid the appearance of having any interest which would conflict in any manner with the performance of the work pursuant to this Contract. Contractor agrees not to accept any employment during the term of this Contract which is or may make Contractor financially interested, as provided in California Government Code Sections 1090 and 87100, in any decision made by the City on any matter in connection with which Contractor has been retained pursuant to this Contract. However, nothing herein shall preclude Contractor from accepting other engagements with the City.

15. INDEMNIFICATION.

15.1 To the fullest extent permitted by law, Contractor shall indemnify, defend, with independent counsel approved by the City, and hold harmless the City, and its elective or appointive boards, officers, employees agents and volunteers ("Indemnitee") from and against any and all claims, losses, or liability that may arise out of or result from damages to property or personal injury received by reason of, or in the course of work performed under this Contract due to the acts or omissions of Contractor or Contractor's officers, employees, agents or subcontractors. The indemnification provisions survive completion of the Work or the termination of this Contract. The acceptance of such services shall not operate as a waiver of such right of indemnification. Notwithstanding the foregoing, nothing contained herein shall be construed as obligating Contractor to indemnify any Indemnitee for any claims, losses or liability resulting from the sole or active negligence or willful misconduct of the Indemnitee. Contractor shall pay City for any costs incurred in enforcing this provision.

15.2 The City does not and shall not waive any rights that they may possess against Contractor because of the acceptance by the City or the deposit with the City of any insurance policy or certificate required pursuant to this Contract. This hold harmless and indemnification provision shall apply regardless of whether or not any insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost or expense.

15.3 Pursuant to Public Contract Code Section 9201, the City shall timely notify Contractor upon receipt of any third-party claim relating to the Contract.

16. ASSIGNABILITY. The parties agree that the experience and qualifications of Contractor as set forth in the Contractor's Bid are material considerations for the City entering into this Contract. Consultant shall not assign or transfer any interest in this Contract, without the prior written consent of the City, and any attempt by Contractor to do so shall be void and of no effect and a breach of this Contract. For purposes of this section, the sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor or of any general partner or joint venturer or syndicate member of Contractor, if a partnership or joint venture or syndicate or co-tenancy exists, which shall result in changing the control of Contractor, shall be construed as an assignment of this Construction Contract. Control means more than fifty percent (50%) of the voting power of the corporation or other entity.

17. INSURANCE AND BOND REQUIREMENTS.

17.1 Prior to the commencement of any Work, the Contractor shall provide the City with evidence that it

has obtained the insurance required by this Section and all bonds, including, but not limited to, payment and performance bonds, required in the Special Provisions. Failure to obtain and maintain the required insurance and bonds to so shall be deemed a material breach of this Contract.

17.2 Insurance Requirements. Contractor shall obtain the following insurance.

- A. Worker's Compensation and Employer's Liability Insurance: The CONTRACTOR shall have in effect during the entire life of this Contract workers' compensation and Employer's Liability Insurance providing full statutory coverage. In signing this Contract, the CONTRACTOR makes the following certification, required by Section 18161 of the California Labor Code: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- B. Commercial General Liability Insurance: The CONTRACTOR shall take out and maintain during the life of this Contract such Bodily Injury Liability and Property Damage Liability Insurance (Commercial General Liability Insurance) on an occurrence basis as shall protect it while performing work covered by this Contract from any and all claims for damages for bodily injury, including accidental death, as well as claims for property damage which may arise from the CONTRACTOR's operations under this Contract, whether such operations be by CONTRACTOR or by any sub-consultant or by anyone directly or indirectly employed by either of them. The amounts of such insurance shall be not less than two million dollars (\$2,000,000) per occurrence and four million dollars (\$4,000,000) in aggregate, or four million dollars (\$4,000,000) combined single limit bodily injury and property damage for each occurrence. CONTRACTOR shall provide the City with acceptable evidence of coverage, including a copy of all declarations of coverage exclusions.
- C. Automobile Liability Insurance: CONTRACTOR shall maintain Automobile Liability Insurance pursuant to this Contract in an amount of not less than one million dollars (\$1,000,000) for each accident combined single limit or not less than one million dollars (\$1,000,000) for any one (1) person, and one million dollars (\$1,000,000) for any one (1) accident, and Three Hundred Thousand Dollars, (\$300,000) property damage.

17.3 CITY and its subsidiary agencies, and their officers, agents, employees and servants shall be named as additional insured on any such policies of Commercial General Liability and Automobile Liability Insurance, (but not for the workers' compensation), which shall also contain a provision that the insurance afforded thereby to the CITY, its subsidiary agencies, and their officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy, and that if the CITY, its subsidiary agencies and their officers and employees have other insurance against a loss covered by a policy, such other insurance shall be excess insurance only.

17.4 In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, CITY, at its option, may, notwithstanding any other provision of this Contract to the contrary, immediately declare a material breach of this Contract and suspend all further work pursuant to this Contract.

17.5. Before the execution of this Contract, any deductibles or self-insured retentions must be declared to and approved by CITY.

18. EARTHWORK AND UNDERGROUND FACILITIES. If the Work involves digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall notify City in writing of any material that Contractor believes may be hazardous waste that is required to be removed in accordance law, subsurface or latent physical conditions at the site differing from those

indicated by information about the site made available to bidders prior to the deadline for submitting bids, or 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 Documents, pursuant to Section 7104 of the Public Contract Code. For any Work involving trench shoring that costs in excess of \$25,000, Contractor shall submit and City (or a registered civil or structural engineer employed by City) must accept, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches, pursuant to Labor Code Section 6705. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. Consistent with Government Code Section 4215, as between City and Contractor, City will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding.

19. **DEFECTIVE WORK; WARRANTIES.** Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices, all Contract Documents requirements, and all laws, codes, standards, licenses, and permits. Contractor warrants that all materials and equipment shall be new, of suitable grade of their respective kinds for their intended uses, and free from defects. Contractor hereby grants to City for a period of one year following the date of completion its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers. If either prior to completion of the Work, or within one year after completion, any Work (completed or incomplete) is found to violate any of the foregoing warranties (**Defective Work**), Contractor shall promptly, without cost to City and in accordance with City's written instructions, correct, remove and replace the Defective Work with conforming Work, and correct, remove and replace any damage to other Work or other property resulting therefrom. If Contractor fails to do so, Contractor shall pay all of the City's resulting claims, costs, losses and damages. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, City shall have all rights and remedies granted by law.
20. **SUSPENSION.** The City may, at any time and from time to time, without cause, order Contractor, in writing ("Suspension Order"), to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to an aggregate of fifty percent (50%) of the Contract Time, as City may determine, with such period of suspension to be computed from the date of the Suspension Order. Upon receipt of a Suspension Order, Contractor shall, at City's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of work stoppage. Within the period of the above noted aggregate time, or such extension to that period as is agreed upon by Contractor and City, City shall either cancel the Suspension Order or delete the work covered by the Suspension Order by issuing a Change Order. If a Suspension Order is canceled or expires, Contractor shall resume and continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. All claims by Contractor against City shall be submitted in writing to City, and shall be governed by Public Contract Code Sections 9204 and 20104 – 20104.6, after which time the one year time period in Government Code Section 911.2 shall be, pursuant to Government Code Section 930.2, reduced to 90 days.
21. **BOOKS AND RECORDS.** Contractor shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Contract in accordance with generally accepted accounting principles and practices consistently applied. City and City's accountants shall be afforded access at all times during normal business hours, to inspect, audit and copy Contractor's records, books, estimates, take-offs, cost reports, ledgers, schedules,

correspondence, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to this Project, and Contractor shall preserve these for a period of three years after the later of (i) final payment or (ii) final resolution of all Contract Disputes and other disputes or for such longer period as may be required by law. Contractor's compliance with any request by City pursuant to this Section 18 shall be a condition precedent to filing or maintenance of any legal action or proceeding by Contractor against City and to Contractor's right to receive further payments under the Contract Documents. Any failure by Contractor to provide access to its business records for inspection or copying by City shall be specifically enforceable by issuance of a writ or a provisional or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony.

22. **WAIVER.** Waiver by either party of any breach or violation of any one or more terms or conditions of this Contract shall not be deemed to be a waiver of any other term or condition contained herein or a waiver of any subsequent breach or violation of the same or any other term or condition. Acceptance by the City of the performance of any work by the Contractor shall not be deemed to be a waiver of any term or condition of this Contract. In no event shall the City's making of any payment to Contractor constitute or be construed as a waiver by the City of any breach of this Contract, or any default which may then exist on the part of Contractor, and the making of any such payment by the City shall in no way impair or prejudice any right or remedy available to the City with regard to such breach or default.

23. **DEFAULT.** In the event the City determines, in its sole discretion, that Contractor has failed or refused to perform any of the obligations set forth in the Contract Documents, or is in breach of any provision of the Contract Documents, the City may give written notice of default to Contractor in the manner specified for this giving of notices in this Contract. Except for emergencies, Contractor shall cure any default in performance of its obligations under the Contract Documents within two (2) business days after receipt of written notice. However, if the breach cannot be reasonably cured within such time, Contractor will commence to cure the breach within two (2) days and will diligently and continuously prosecute such cure to completion within a reasonable time, which shall in no event be later than ten (10) days after receipt of such written notice.

24. CITY RIGHTS AND REMEDIES.

24.1 **Remedies Upon Default.** In the event that Contractor fails to cure any default of this Contract within the time period set forth in Section 20, then City may pursue any remedies available under law or equity, including, without limitation, the following: (1) the City may, without terminating the Contract, delete certain portions of the Work, reserving to itself all rights to losses related thereto; (2) the City may, without terminating the Contract, engage others to perform the Work or portion of the Work that has not been performed by the Contractor and withhold the cost thereof to City from future payments to the Contractor, reserving to itself all rights to Losses related thereto; or (3) the City may, without terminating the Contract and reserving to itself all rights to Losses related thereto, suspend all or any portion of this Construction Contract for as long a period of time as City determines, in its sole discretion, appropriate, in which event City shall have no obligation to adjust the Contract Sum or Contract Time, and shall have no liability to Contractor for damages if City directs Contractor to resume Work; (4) the City may terminate all or any part of this Contract for default, reserving to itself all rights of Losses related thereto; or (5) the City may, without terminating the Contract and reserving to itself all rights to Losses related thereto, exercise its rights under the Performance Bond.

24.2 **Additional Provisions.** All of City's rights and remedies under this Contract are cumulative, and shall be in addition to those rights and remedies available in law or in equity. Designation in the Contract Documents of certain breaches as material shall not be construed as implying that other breaches not so designated are not material nor shall such designations be construed as limiting

City's right to terminate the Contract, or the exercise of its other rights or remedies for default, to only material breaches. City's determination of whether there has been noncompliance with the Contract so as to warrant exercise by City of its rights and remedies for default under the Contract, shall be binding on all parties. No termination or action taken by City after such termination shall prejudice any other rights or remedies of City provided by law or equity or by the Contract Documents upon such termination; and City may proceed against Contractor to recover all liquidated damages and Losses suffered by City.

24.3 Delays by Sureties. Without limitation to any of City's other rights or remedies under the law, City has the right to suspend the performance by Contractor's sureties in the event of any of the following: (1) failure of the sureties to begin Work within a reasonable time in such manner as to insure full compliance with the Contract within the Contract Time; (2) abandonment of the Work; (3) if at any time City is of the opinion the Work is unnecessarily or unreasonably delayed; (4) willful violation of any terms of the Contract; (5) failure to perform according to the Contract Documents; or (6) failure to follow instructions of City for its completion within the Contract Time. City will serve notice of such failure upon the sureties and in the event the sureties neglect or refuse to cure the breach within the time specified in such notice, City shall have the power to suspend the performance or any part thereof of the sureties.

24.4 Damages to the City. The City will be entitled to recovery of all Losses under law or equity in the event of Contractor's default under the Contract Documents. In the event that City's Losses arise from Contractor's default under the Contract Documents, City shall be entitled to withhold monies otherwise payable to Contractor until Final Completion, as defined in the General Conditions, of the Project. If City incurs Losses due to Contractor's default, then the amount of Losses shall be deducted from the amounts withheld. Should the amount withheld exceed the amount deducted, the balance will be paid to Contractor or its designee upon Final Completion of the Project. If the Losses incurred by City exceed the amount withheld, Contractor shall be liable to City for the difference and shall promptly remit same to City.

24.5 Termination of the Contract for Default. Without limitation to any of City's other rights or remedies at law or in equity, and reserving to itself all rights to Losses related thereto, City shall have the right to terminate this Contract, in whole or in part, upon the failure of Contractor to promptly cure any default. City's election to terminate the Contract for default shall be communicated by giving Contractor a written notice of termination in the manner specified for the giving of notices in the Contract. Any notice of termination given to Contractor by City shall be effective immediately, unless otherwise provided therein. Should Contractor be terminated for default, and such termination is subsequently determined to be wrongful, such termination will be converted to a termination for convenience as provided herein.

24.6 Termination Without Cause. City shall have the option, at its sole discretion and without cause, of terminating this Contract in part or in whole by giving thirty (30) days written notice to Contractor. Contractor agrees to accept such sums as allowed under this Section as its sole and exclusive compensation and waives any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect or incidental damages of any kind.

24.7 Compensation. Following termination without cause and within forty-five (45) days after receipt of a billing from Contractor seeking payment of sums authorized by this Section, City shall pay to Contractor as its sole compensation for performance of the Work the following: (1) the amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor; (2) reasonable costs of Contractor and its Subcontractors and Sub-subcontractors for demobilizing and administering the close-out of its participation in the Project (including, without limitation, all billing and accounting functions, not

including attorney or expert fees) for a period of no longer than thirty (30) days after receipt of the notice of termination in an amount not to exceed the daily sum payable to Contractor for Compensable Delays; (3) previously unpaid cost of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work.

CONTRACTOR Shall bill each month to City an original invoice for all Services performed and expenses incurred during the preceding month. Each such invoice shall contain the total agreement amount subtracting the invoices paid and billing. By submitting an invoice for payment under this Agreement, CONTRACTOR is certifying compliance with all provisions of the Agreement. CONTRACTOR shall not invoice City for any duplicate Services performed by more than one person. City shall independently review each invoice submitted by CONTRACTOR to determine whether the Services performed and expenses incurred are in compliant with the provisions of this Agreement. City will use its best efforts to cause CONTRACTOR to be paid within thirty (30) days of receipt of CONTRACTOR's correct and undisputed invoice, except as to any charges for Services performed or expenses incurred by CONTRACTOR which are disputed by City, or as provided in Section 6.3. In the event any charges or expenses are in dispute by City, the original invoice shall be returned by City to CONTRACTOR for correction and resubmission. Review and payment by City of any invoice provided by CONTRACTOR shall not constitute waiver of any rights or remedies provided herein or any applicable law. Consultant shall bill the City as services are complete. City reserves the right to deny payment to CONTRACTOR for any invoice submitted is more than 90 days after performance of Services or expenses incurred by CONTRACTOR.

24.8 Subcontractors. Contractor shall include provisions in all of its subcontracts, purchase orders and other contracts permitting termination for convenience by Contractor on terms that are consistent with this Contract and that afford no greater rights of recovery against Contractor than are afforded to Contractor under this Section.

24.9 Contractor's Duties Upon Termination. Upon receipt of a notice of termination for default or for convenience, Contractor shall, unless the notice directs otherwise, do the following: (1) immediately discontinue the Work to the extent specified in the notice; (2) place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued; (3) provide to City a description, in writing no later than fifteen (15) days after receipt of the notice of termination, of all subcontracts, purchase orders and contracts that are outstanding, including, without limitation, the terms of the original price, any changes, payments, balance owing, the status of the portion of the Work covered and a copy of the subcontract, purchase order or contract and any written changes, amendments or modifications thereto, together with such other information as City may determine necessary in order to decide whether to accept assignment of or request Contractor to terminate the subcontract, purchase order or contract; (4) promptly assign to City those subcontracts, purchase orders or contracts, or portions thereof, that City elects to accept by assignment and cancel, on the most favorable terms reasonably possible, all subcontracts, purchase orders or contracts, or portions thereof, that City does not elect to accept by assignment; and (5) hereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project Site or in transit thereto.

25. CONTRACTOR'S RIGHTS AND REMEDIES. Contractor may terminate this Construction Contract for cause only upon the occurrence of one of the following: (1) the Work is stopped for sixty (60) consecutive days, through no act or fault of Contractor, any subcontractor or any employee or agent of Contractor or any subcontractor, due to issuance of an order of a court or other public authority other than City having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable; or (2) if the City does not make payment of sums that are not in good faith disputed by the City and does not cure such default within ninety (90) days after receipt of notice from Contractor, then upon an additional thirty (30) days' notice to City, Contractor may terminate the Contract.

25.1 Damages to Contractor. In the event of termination for cause by Contractor, City shall pay Contractor the sums provided for in Section 21 above. Contractor agrees to accept such sums as its sole and exclusive compensation and agrees to waive any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect and incidental damages, of any kind.

26. NOTICES. Any notices or other communications required or permitted to be given under this Contract shall be given in writing by personal delivery, by a recognized courier service, or by U.S. mail, postage prepaid, and return receipt requested, addressed to the respective parties as follows:

To City:

To Contractor:

Assistant Public Works Director
City of Menlo Park
City Hall, 701 Laurel St.
Menlo Park, CA 94025

27. Notice shall be deemed communicated on the earlier of actual receipt or 48 hours after deposit in the U.S. mail, or the date of delivery shown on deliverer's receipt. In the event of any change of address, the moving party is obligated to notify the other party of the change of address in writing within a reasonable period of time.

In addition, copies of all Claims by Contractor under this contract shall be provided to the City Attorney as follows:

To City Attorney:

City Attorney for Menlo Park
Burke, Williams & Sorensen, LLP
181 Third Street, Suite 200
San Rafael, CA 94901

All claims shall be delivered personally or sent by certified mail.

28. NON-DISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY. In the performance of this Contract, Contractor shall not discriminate against any employee, subcontractor or applicant for employment because of race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition. Contractor will take affirmative action to ensure that employees are treated without regard to race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental handicap, or medical condition.

29. CONTRACT DOCUMENTS AND PRECEDENCE. The Contract Documents shall consist of the following documents. In case of inconsistencies between Contract Documents, the documents are listed in order of precedence.

30. PUBLIC WORKS CLAIMS. This Contract is subject to Public Contracts Code Section 9204 governing contractor claims. Accordingly, should any clarification, determination, action or inaction by City, Work, or any other event, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor and City will make good faith attempts to resolve informally any and all such issues, claims and/or disputes. Before commencing the Disputed Work, or within seven Days after Contractor's first knowledge of

the Disputed Work, whichever is earlier, Contractor shall file a written notice and cost proposal for the Disputed Work with City stating clearly and in detail its objection and reasons for contending the Work or interpretation is outside the requirements of Project Documents. If a written notice and cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice required by this paragraph, Contractor shall waive its rights to further claim on the specific issue.

A. City will review Contractor's timely notice and cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Project Documents, it shall so notify City, in writing, within seven Days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. Within 30 Days of receiving the decision, Contractor shall submit its claim in the form specified herein and all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting its position. Contractor's failure to furnish notification within seven Days and all justifying documentation within 30 Days will result in Contractor waiving its right to the subject claim.

B. Claim Format

1. A. Contractor shall submit the claim justification in the following format:

- (a) Cover letter and certification;
- (b) Summary of claim, including underlying facts, entitlement, schedule analysis, quantum calculations, Project provisions supporting relief;
- (c) List of documents relating to claim including Specifications, Drawings/Plans clarifications/requests for information, schedules, notices of delay, cost calculations and any others;
- (d) Chronology of events and correspondence;
- (e) Analysis of claim merit;
- (f) Analysis of claim cost; and
- (g) Attach supporting documents referenced in paragraph 2.14,C.1(c), above.

C. Required Provisions on Contract Claim Resolution

1. Public Contract Code Section 9204 specifies provisions on resolving contract claims of any size, and Public Contract Code Section 201014, et seq., specifies required provisions on resolving contract claims less than \$375,000. Those statutes constitute a part of this Contract. In the event any other Contract provision violates such statutes, the applicable statute controls.

2. Public Contract Code Section 9204 provides:

- (a) For the purposes of this section, "Claim" means a separate demand by Contractor for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by City.
- (b) Procedure:
 - (1) Upon receipt of a Claim the City shall conduct a reasonable review of the Claim and within 45 days, or if City's governing body must approve City's response to the Claim and the governing body has not met within the 45 days then within three (3) days of the governing body's meeting, shall provide Contractor with a written statement identifying what portion of the claim is disputed and what portion is undisputed. Should City take no action on the Claim within 45 days of submission, it shall be deemed denied.
 - (2) If the Contractor disputes City's response to its Claim, including a failure to respond, it may submit via registered mail or certified mail, return receipt requested, a written demand for an informal conference to meet and confer for settlement of the issues in

dispute. City shall schedule such a meet and confer conference within 30 days for settlement of the dispute. Within ten (10) days of the meet and confer conference City shall provide Contractor with a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. If the Contractor disputes City's statement it shall inform City and they shall mutually agree to a mediator within 10 business days of the written statement.

- (3) City shall pay the undisputed portions of the Claim within 60 days of the issuance of a written statement identifying an undisputed portion.
- (4) Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the claimant sharing the associated costs equally. The City and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.
- (5) For claims under \$375,000, unless the parties agree otherwise in writing, mediation pursuant to these provisions shall excuse the mediation obligation under Public Contracting Code section 20104.4(a).
- (6) The parties may mutually agree, in writing, to waive the mediation requirements of this subsection and proceed to the commencement of a civil action.
- (7) Failure by the City to respond to a Claim from a Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A Claim that is denied by reason of the public entity's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the claimant.
- (8) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.
- (9) If a Subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against City because privity of contract does not exist, the Contractor may present to the City a claim on behalf of a Subcontractor or lower tier subcontractor. A Subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the Claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the City and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.
- (10) Nothing in this section shall impose liability upon a City that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.
- (11) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

3. To the extent applicable, Public Contract Code Section 20104, et seq., provide:

- (a) For the purposes of this section, "Claim" means a separate demand by Contractor of

\$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by City. Separate Contractor Claims that together total more than \$375,000 do not qualify as a “separate demand of \$375,000 or less,” as referenced above, and are not subject to this section.

(b) Caution. This section does not apply to tort claims, and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the Government Code.

(c) Procedure:

- (1) The Claim must be in writing, submitted in compliance with all requirements of General Conditions including, without limitation, the time prescribed by and including the documents necessary to substantiate the Claim. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in the General Conditions or elsewhere in the Contract Documents.
- (2) For Claims of fifty thousand dollars (\$50,000) or less, City shall respond in writing within forty-five (45) days of receipt of the Claim, or City may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of City and Claimant. City's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
- (3) For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000: City shall respond in writing within sixty (60) days of receipt of the Claim, or City may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of City and Claimant; City's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
- (4) Meet and Confer: If Claimant disputes City's written response, or City fails to respond within the time prescribed above, Claimant shall notify City, in writing, either within fifteen (15) days of receipt of City's response or within fifteen (15) days of City's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand City will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
- (5) Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

31. ATTORNEYS' FEES; VENUE. The Agreement shall be deemed to have been executed in the City of Menlo Park, California. Enforcement of the Contract Documents shall be governed by the laws of

the State of California, excluding its conflict of laws rules. Except as expressly provided in the Contract Documents, nothing in the Contract Documents shall operate to confer rights or benefits on persons or entities not party to the Agreement. As between the parties to the Agreement, any applicable statute of limitations for any act or failure to act shall commence to run on the date of City's issuance of the final Certificate for Payment, or termination of the Contract Documents, whichever is earlier, except for latent defects, for which the statute of limitation shall begin running upon discovery of the defect and its cause. In the event that any party to this Contract commences any legal action or proceeding to enforce or interpret the provisions of this Contract, the prevailing party in such action or proceeding shall be entitled to recover reasonable attorneys' fees and other costs incurred in that action or proceeding, in addition to any other relief to which the successful party may be entitled. The venue for any litigation shall be San Mateo County.

32. COOPERATION. In the event any claim or action is brought against the City relating to Contractor's performance or services under this Agreement, Contractor shall render any reasonable assistance and cooperation which City might require.
33. NUISANCE. Contractor shall not maintain, commit, nor permit the maintenance or commission of any nuisance in connection with the performance of services under this Contract.
34. GOVERNING LAW. This Contract shall be construed in accordance with and governed by the laws of the State of California.
35. COMPLETE AGREEMENT; SEVERABILITY. This Contract, and any other documents incorporated herein by reference, represent the entire and integrated agreement between the City and Contractor. This Contract supersedes all prior oral and written negotiations, representations or agreements. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Contract may only be modified by a written amendment duly executed by the parties to this Contract. In case a provision of this Contract is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.
36. NO MODIFICATION OR WAIVER. The Contract Documents may not be modified, nor may compliance with any of its terms be waived, except by written instrument executed and approved by fully authorized representatives of City and Contractor. Contract Documents headings are for convenience only and do not affect the construction of the Contract Documents.
37. COUNTERPARTS. This Contract may be signed in multiple counterparts, which shall, when executed by all the parties constitute a single binding contract.

Signatures on next page.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day and year first above written.

FOR FIRST PARTY:

Signature

Date

Printed name

Title

Tax ID#

APPROVED AS TO FORM:

Nira F. Doherty, City Attorney

Date

FOR CITY OF MENLO PARK:

Justin I. C. Murphy, City Manager

Date

ATTEST:

Judi A. Herren, City Clerk

Date

General Liability Endorsement

CITY OF MENLO PARK ("the City")
701 LAUREL STREET, MENLO PARK, CA 94025
ATTENTION: GUAN HUAN FU, ASSISTANT PUBLIC WORKS DIRECTOR

A. POLICY INFORMATION

1. Insurance Company:		Policy Number:
2. Policy Term: From:	To:	Endorsement Effective Date:
3. Named Insured:		
4. Address of Named Insured:		
5. Limit of Liability Any One Occurrence/Aggregate \$2,000,000/\$4,000,000		
6. Deductible or Self-Insured Retention (Nil unless otherwise specified):		
7. "Claims Made" coverage: Retroactive Date:		
Tails:		

B. POLICY AMENDMENTS

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto it is agreed as follows:

1. **INSURED:** The City, its elected or appointed officials, employees, and volunteers are included as insureds with regard to damages and defense of claims arising from: (a) activities performed by or on behalf of the Named Insured, (b) products and completed operations of the Named Insured, or (c) premises owned, leased or used by the Named Insured.

2. **CONTRIBUTION NOT REQUIRED:** As respects: (a) work performed by the Named Insured for or on behalf of the City; or (b) products sold by the Named Insured to the City, or (c) premises leased by the Named Insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its elected or appointed officials, employees or volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its elected or appointed officials, employees or volunteers shall be excess of this insurance and shall not contribute with it.

3. **SCOPE OF COVERAGE:** The policy: (1) if primary, affords coverage at least as broad as Insurance Services Office form for Broad Form Commercial General Liability Insurance and Insurance Services Office form for Broad Form Commercial General Liability endorsement; or (2) if excess, affords coverage which is at least as broad as the Primary Insurance form referenced in the preceding Section (1).

4. **SEVERABILITY OF INTEREST:** The insurance afforded by this policy applies separately to each insured seeking coverage or against whom a claim is made or a suit is brought, except with respect to the Company's limit of liability.

5. **PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS:** Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the City, its elected or appointed officials, employees or volunteers.

6. **CANCELLATION NOTICE:** The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by Certified Mail Return Receipt Requested have been given to the City. Such notice shall be addressed as shown in the heading of this endorsement.

C. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____ (print/type name), warrant that I have authority to bind the below-listed insurance company and by my signature hereon do so bind this company.

Signature of _____
Authorized Representative
(original signature on endorsement furnished to the City)

ORGANIZATION: _____ TITLE: _____

ADDRESS: _____ TELEPHONE: _____

Automobile Liability Endorsement

CITY OF MENLO PARK ("the City")
 701 LAUREL STREET, MENLO PARK, CA 94025
 ATTENTION: GUAN HUAN FU, ASSISTANT PUBLIC WORKS DIRECTOR

A. POLICY INFORMATION

1. Insurance Company:		Policy Number:
2. Policy Term: From:	To:	Endorsement Effective Date:
3. Named Insured:		
4. Address of Named Insured:		
5. Limit of Liability Any One Occurrence/Aggregate \$1,000,000.00		
6. Deductible or Self-Insured Retention (Nil unless otherwise specified):		
7. "Claims Made" coverage: Retroactive Date:		
Tails:		

B. POLICY AMENDMENTS

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto it is agreed as follows:

1. **INSURED:** The City, its elected or appointed officials, employees, and volunteers are included as insureds with regard to damages and defense of claims arising from: (a) activities performed by or on behalf of the Named Insured, (b) products and completed operations of the Named Insured, or (c) premises owned, leased or used by the Named Insured.

2. **CONTRIBUTION NOT REQUIRED:** As respects: (a) work performed by the Named Insured for or on behalf of the City; or (b) products sold by the Named Insured to the City, or (c) premises leased by the Named Insured from the City, the insurance afforded by this policy shall be primary insurance in respect to the City, its elected or appointed officials, employees or volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its elected or appointed officials, employees or volunteers shall be excess of this insurance and shall not contribute with it.

3. **SCOPE OF COVERAGE:** This policy affords coverage to the Named Insured which is at least as broad as Insurance Services Office form for Automobile Liability, Code 1 ("any auto").

4. **SEVERABILITY OF INTEREST:** The insurance afforded by this policy applies separately to each insured seeking coverage or against whom a claim is made or a suit is brought, except with respect to the Company's limit of liability.

5. **PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS:** Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the City, its elected or appointed officials, employees or volunteers.

6. **CANCELLATION NOTICE:** The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except after 30 days prior written notice by Certified Mail Return Receipt Requested have been given to the City. Such notice shall be addressed as shown in the heading of this endorsement.

C. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____ (print/type name), warrant that I have authority to bind the below-listed insurance company and by my signature hereon do so bind this company.

Signature of _____
Authorized Representative
(original signature on endorsement furnished to the City)

ORGANIZATION: _____ TITLE: _____

ADDRESS: _____ TELEPHONE: _____

Workers Compensation/Employees Liability Endorsement

CITY OF MENLO PARK ("the City")
701 LAUREL STREET, MENLO PARK, CA 94025
ATTENTION: GUAN HUAN FU, ASSISTANT PUBLIC WORKS DIRECTOR

A. POLICY INFORMATION

1. Insurance Company:	Policy Number:
2. Endorsement Effective Date:	
3. Named Insured:	
4. Employer's Liability Limits (coverage B) \$1,000,000.00	

B. POLICY AMENDMENTS:

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto it is agreed as follows:

1. **CANCELLATION NOTICE:** The insurance afforded to this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except after 30 days prior written notice by Certified Mail Return Receipt Requested have been given to the City. Such notice shall be addressed as shown in the heading of this endorsement.

2. **WAIVER OF SUBROGATION:** The Company agrees to waive all rights of subrogation against the City, its elected or appointed officials, agents and employees for losses paid under the terms of this policy which arise from work performed by the Named Insured for the City.

C. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____ (print/type name), warrant that I have authority to bind the below-listed insurance company and by my signature hereon do so bind this company.

Signature of _____
Authorized representative
(original signature on endorsement furnished to the City)

ORGANIZATION: _____ TITLE: _____

ADDRESS: _____ TELEPHONE: _____

Certificate of Insurance

CITY OF MENLO PARK ("the City")
 701 LAUREL STREET, MENLO PARK, CA 94025
 ATTENTION: GUAN HUAN FU, ASSISTANT PUBLIC WORKS DIRECTOR

This certifies that the following described policies have been issued to the insured named below and are in force at this time.

Insured _____

Address _____

Description of operations/locations/products insured (show Contract name and/or number if any).

POLICIES AND INSURERS	LIMITS		Expiration Date/ Policy Number
	Bodily Injury	Property Damage	
Worker's Compensation Insurer	Employer's Liability \$ 1,000,000 per accident		
Commercial General Liability Insurer	Each Occurrence \$2,000,000 Aggregate \$4,000,000 Combined Single Limit	Each Occurrence \$2,000,000 Aggregate \$4,000,000 Combined Single Limit	
Business Auto Policy Liability Coverage Symbol Insurer	Each Person \$1,000,000 Each Accident \$1,000,000	Each Accident Combined Single Limit \$1,000,000	
Umbrella Liability Insurer	Occurrence/Aggregate \$ Self-Retention \$		
The following coverages or conditions are in effect:			
Yes ☐	No ☐	The City, its officials, and employees are named on all liability policies described above as insureds in respect to: (a) activities performed for the City or on behalf of the named insured, (b) products and completed operations of the named insured and (c) premises owned, leased or used by the named insured.	

Products and completed operations:		
Yes ☐	No ☐	The undersigned will mail to the City 30 days written notice of cancellation or reduction of coverage or limits, cross liability clause (or equivalent wording).
Yes ☐	No ☐	Personal Injury, perils A, B, and C.
Yes ☐	No ☐	Broad form property damage.
Yes ☐	No ☐	X, C, U hazards included.
Yes ☐	No ☐	Contractual liability coverage applying to this Contract.
Yes ☐	No ☐	Liquor liability.
Yes ☐	No ☐	Coverage afforded the City, its officials, employees and volunteers as an insured applies as primary and not excess or contributing to any insurance issued in the name of the City.
Yes ☐	No ☐	Waiver of subrogation from worker's compensation insurer.

This certificate is issued as a matter of information. This certificate is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any Contract or other document with respect to which this certificate or insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

Agency or Brokerage

Insurance Company

Address

Home Office

Name of Person to be Contacted

Authorized Signature

Telephone

Date

Note: Authorized signature may be the agent's, if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of official of insurer.

Certificate of Liability Insurance

ACORD® **CERTIFICATE OF LIABILITY INSURANCE** DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER **CONTACT**
NAME _____
PHONE (A/C, No, Ext) _____ FAX (A/C, No) _____
E-MAIL _____
ADDRESS _____

INSURED **INSURER(S) AFFORDING COVERAGE** NAIC #

INSURER A: _____
INSURER B: _____
INSURER C: _____
INSURER D: _____
INSURER E: _____
INSURER F: _____

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR	WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						
	☐ COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE \$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (EA occurrence) \$
							WBS-BAZ (Any one person) \$
							PERSONAL & ADV INJURY \$
							GENERAL AGGREGATE \$
							PRODUCTS - COMPROP AGG \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						
	☐ POLICY ☐ PRO- ☐ RET ☐ LOC						
	AUTOMOBILE LIABILITY						
	☐ ANY AUTO						COMBINED SINGLE LIMIT \$
	☐ ALL OWNED AUTOS						BODILY INJURY (Per person) \$
	☐ SCHEDULED AUTOS						BODILY INJURY (Per accident) \$
	☐ HIRED AUTOS						PROPERTY DAMAGE (Per accident) \$
	☐ UMBRELLA LIAB						EACH OCCURRENCE \$
	☐ EXCESS LIAB						AGGREGATE \$
	☐ OCCUR ☐ CLAIMS-MADE						
	☐ CED ☐ RETENTION \$						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						WC STATUTORY LIMITS \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						OTH-ER \$
							E.L. EACH ACCIDENT \$
							E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)							
CERTIFICATE HOLDER				CANCELLATION			
				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.			
				AUTHORIZED REPRESENTATIVE _____			

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POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART**SCHEDULE**

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 04 13**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.****ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – SCHEDULED PERSON OR
ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

- C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance**:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations; whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

SAMPLE

Equal Employment Opportunity Certification

This certificate must be completed and submitted by the apparent low bidder within five (5) working days after notification by the City of intent to award

The bidder _____, proposed subcontractor _____, hereby certifies that he has____, has not____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts, which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor

I declare under penalty of perjury that the foregoing information is true and correct.

Dated: _____, 20____.

Bidder's Signature



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Performance Bond

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the City of Menlo Park, State of California, has awarded to _____, hereinafter designated as the "Principal," a Contract for the **Belle Haven Child Development Center Electrification Project (CPB-025)** and

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract.

NOW, THEREFORE, we the Principal, and _____ as Surety, are held and firmly bound unto the City of Menlo Park in the penal sum of _____ DOLLARS (\$ _____), lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounded Principal, or its 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 Agreement and any alteration thereof made as therein provided, on their part, to be kept and performed at the time and in the manner therein specified and in all respects according to their true intent and meaning; and shall defend, indemnify and save harmless the City of Menlo Park, its officers and agents as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

Surety, for value received hereby stipulates and agrees that, in accordance with the Plans, Standard Specifications, Special Provisions and other Contract Documents, no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or additions to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their seals this _____ day of _____, 20____ the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Corporate Seal)

Principal

By: _____

(Acknowledgment)

Title: _____

(Corporate Seal)

Surety

By: _____
Attorneys-in-fact

(Acknowledgment)

Title: _____

(Seal)

(Witness)

Approved as to form:

City

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

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in fact

NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY

STATE OF CALIFORNIA }
 } ss.
COUNTY OF _____ }

On _____, before me, _____, a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Payment Bond

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the City of Menlo Park, a Municipal Corporation, has awarded to _____, hereinafter designated as the "Principal," a Contract for the **Belle Haven Child Development Center Electrification Project (CPB-025)**, and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract, to secure payment of claims of laborers, mechanics, or material persons employed on work under said Contract Agreement, as provided by law.

NOW, THEREFORE, we the undersigned Principal and _____ as Surety, are held and firmly bound unto the City of Menlo Park in the sum of _____ DOLLARS (\$_____), said sum being equal to the estimated amount payable by said City of Menlo Park under the terms of the Contract Agreement, for which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractors shall fail to pay for any material, provisions, provender or other supplies, implements or machinery 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 such work or labor or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and their subcontractors pursuant to the Revenue and Taxation Code, with respect to such work and labor, the Surety or Sureties hereon will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be voided. In case suit is brought upon this bond, said Surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the Civil Code of the State of California so as to give a right of action to them or their assigns in any suit brought upon this bond.

Said Surety, for value received, hereby stipulates and agrees that, in accordance with the Plan, Standard Specifications, Special Provisions and other Contract Agreement documents, no change, extension of time, alteration or addition to the terms of the Contractual Agreement, or to the work to be performed thereunder, or to the specifications accompanying the same, shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contractual Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this _____ day of _____, 20__, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Corporate Seal)

Principal

By: _____

(Acknowledgment)

Title: _____

(Corporate Seal)

Surety

By: _____
Attorneys-in-fact

(Acknowledgment)

Title: _____

(Seal)

(Witness)

Approved as to form:

City

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

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY

STATE OF CALIFORNIA }
 } ss.
COUNTY OF _____ }

On _____, before me, _____, a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Escrow for Security Deposit in Lieu of Retention

This Escrow Agreement is made and entered into by and between the City of Menlo Park, whose address is Civic Center, 701 Laurel Street, Menlo Park, CA 94025, hereinafter called "City," hereinafter called "Contractor", and

_____, whose address is _____, hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the City, 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 the City pursuant to the Construction Contractual Agreement entered into between the City and Contractor for the **Belle Haven Child Development Center Electrification Project (CPB-025)**, in the amount of _ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the City shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contractual Agreement earnings, the Escrow Agent shall notify the City within ten (10) days of the 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 Contractual Agreement between the City and Contractor. Securities shall be held in the name of City of Menlo Park, and shall designate the Contractor as the beneficial owner.

(2) The City shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contractual Agreement provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When the City makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this Contractual Agreement 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 City 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 City. These expenses and payment terms shall be determined by the City, 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 City.

(6) The 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 City to the Escrow Agent that City consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The City 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 City of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the City.

(8) Upon receipt of written notification from the City certifying that the Contractual Agreement is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contractual Agreement, 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 monies and securities on deposit and payments of fees and charges.

(9) The Escrow Agent shall rely on the written notification from the City and the Contractor pursuant to Sections (5) to (8) inclusive, of this Contractual Agreement and the City 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 City and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures, are as follows:

On behalf of City:

On behalf of Contractor:

Title

Title

Name

Name

Signature

Signature

Address

Address

On behalf of Escrow Agent:

Title

Name

Signature

Address

At the time the Escrow Account is opened, the City 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 first set forth above.

City

Contractor

Title

Title

Name

Name

Signature

Signature



**CITY OF MENLO PARK
STATE OF CALIFORNIA**

Maintenance Bond

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the City of Menlo Park, State of California, has awarded to _____, hereinafter designated as the "Principal," a Contractual Agreement for the **Belle Haven Child Development Center Electrification Project (CPB-025)**, and

WHEREAS, said Principal is required under the terms of said Contractual Agreement to furnish a bond for the correction of any defects due to defective materials or workmanship in the work performed under said Agreement.

NOW, THEREFORE, we the Principal, and _____ as Surety, are held and firmly bound unto the City of Menlo Park in the penal sum of _____ DOLLARS (\$ _____), lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if, during a maintenance period of one year from the date of acceptance of the contracted work, the Contractor upon receiving written notice of a need for repairs which are directly attributable to defective materials or workmanship, shall diligently take the necessary steps to correct said defects within seven (7) days from the date of said notice, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

If any action shall be brought by City upon this bond, a reasonable attorney's fee, to be fixed by the Court, shall be and become a part of City's judgment in any such action.

No right of action shall accrue on this bond to, or for the use of, any person or corporation other than the City named herein or the heirs, executors, administrator or successor of the City.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their seals this _____ day of _____, 20____, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Corporate Seal)

Principal

By: _____

(acknowledgment)

Title: _____

(Corporate Seal)

Surety

By: _____
Attorneys-in-fact

(Acknowledgment)

Title: _____

(Seal)

(Witness)

Approved as to form:

City

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

NOTE TO SURETY COMPANY: The following form of acknowledgment should be used. If any other form of acknowledgment is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY

STATE OF CALIFORNIA }
 } ss.
COUNTY OF _____ }

On _____ before me, _____, a Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity(ies), and that by their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

(Seal)

General Provisions

Section 1: General

1-1 General

The work embraced herein shall be done in accordance with the State of California Department of Transportation (Caltrans) Standard Specifications and the City of Menlo Park Standard Details insofar as the same may apply and in accordance with the following special provisions.

The Caltrans Standard Specifications for Construction of Local Streets and Roads, May 2006 Edition, and all revisions ("Standard Specifications"), are incorporated here by reference, and are considered to be a part of this document as if actually included herein, except as modified in the these special provisions.

If a section from the Caltrans Standard Specifications is not included in these Special Provisions, it means that particular section does not apply to this project. Caltrans Standard Specifications have been modified as indicated in these Special Provisions for this project.

Wherever, in the Standard Specifications, reference is made to "the State of California", or to the "Department of Transportation" or any subdivision or personnel of the Department of Transportation, for purposes of administering construction contracts, it is to be understood that those provisions refer, instead, to the City of Menlo Park, City Engineer, and the City's employees and agents, except where specific responsibilities or authorities are required by law to be delegated to the State of California or its officers or officials.

1-2 Abbreviations

The Contractor's attention is directed to Section 1-1.02, "Abbreviations," of the Standard Specifications for the definition of commonly used abbreviations. Other abbreviations include:

Other Abbreviations	
AB	Aggregate Base Rock
AL	Allowance
ASB	Aggregate Sub Base Rock
APWA	American Public Work Association
CY	Cubic Yards
EA	Each
JP	Joint Utility Pole
LBS	Pounds

LF	Linear Feet
LS	Lump Sum
MIN (Capitalized)	Minimum
Other Abbreviations	
Min (Lower Case Letters)	Minutes
NIC	Not In Contract
SF	Square Feet
SY	Square Yards
TON	Tons (Defined As 2000 Pounds)
TP	Telephone Pole
UBC	Uniform Building Code
UON	Unless Otherwise Noted

1-3 Definitions

The following paragraphs are added to Section 1, "Definitions and Terms," of the Standard Specifications.

Wherever in the Standard Specifications, Plans, Special Provisions or other Contract Documents the following definitions and terms are used, the intent and meaning shall be interpreted as follows:

- A. **Agency:** The City of Menlo Park.
- B. **Board or Council:** The City Council of the City of Menlo Park.
- C. **City:** The City of Menlo Park in the State of California.
- D. **Contract Documents:** The Contract Documents shall include the contract between the City and Contractor, which shall consist of: Notice to Contractors, Proposal, Bidder forms, Agreement and Notice Inviting Sealed Bids, accepted Bid Proposal, 2006 State of California Standard Specifications, prevailing wage rates of the State of California, all relevant bonds, and project Specifications, provisions, any addenda, plans and detailed drawings contained in the bid documents.
- E. **Contractor:** The original, or prime, contractor, who is responsible for completing the work described herein.
- F. **Contract Provisions:** Any provision which supplements or modifies the Standard Specifications, including these Special Provisions and any reference documents identified within the Special Provisions. The State Department of Transportation publication titled Labor Surcharge and Equipment Rental Rates and the State Department of Industrial Relations General Prevailing Wage Rates shall also be included as Contract Provisions.
- G. **Department:** The Department of Public Works of the City of Menlo Park, California.
- H. **Director:** The Director of Public Works of the City of Menlo Park, California.
- I. **Engineer:** The City Engineer / Assistant Public Works Director of the City of Menlo Park, State of California, acting either directly or through properly authorized agents; such agents acting within the scope of the particular duties entrusted to them.

- J. **Inspector**: An inspector employed or retained by the City to perform inspection duties during construction of the work under the direction of the Director.
- K. **Laboratory**: Laboratories approved by, and authorized by the Engineer to test materials and work involved in the Contract.
- L. **Owner**: The City of Menlo Park, a political subdivision of the State of California.
- M. **Plans**: Standard plans, revised standard plans, and project plans which encompasses all of the below:
 - 1. **Project plans**: Drawings specific to this project as included in the appendices of these contract documents. The Plans may also include any authorized shop drawings or details, as referenced in these contract documents, as pertaining to the work.
 - 2. **Standard plans**: 2006 California Department of Transportation Standard Plans, City of Menlo Park Standard Details, and any other local agency or district standard plans or details referenced in the project plans.
- N.. **Standard Specifications**: The State of California Department of Transportation Standard Specifications for Construction of Local Streets and Roads, May 2006 Edition.

Section 2: Proposal Requirements and Conditions

2-1 Proposal

2-1.1 Contents of Proposal Forms

Section 2-1.1, "Contents of Proposal Forms," of the Standard Specifications is replaced with the following:

Prospective bidders shall use the proposal forms contained herewithin which refer to the special provisions and project plans for the work to be done and include a schedule of items for which bid prices are asked, showing the approximate estimate of the various quantities and kinds of work to be performed or materials to be furnished.

2-1.2 Proposal Forms

Section 2-1.05, "Proposal Forms," of the Standard Specifications is replaced with the following:

The proposal form together with the Notice to Contractors. Special Provisions, and contract contained herewithin are bound in a book, entitled "Proposal and Contract Book" The proposal shall set forth the item prices and totals, in clearly legible figures, in the respective spaces provided and shall be signed by the bidder, who shall fill out all blanks in the proposal form as therein required.

The bidder shall also fill out all blanks in the proposal forms for any alternative to the project proposed by the City; failure to do so may, in the City's sole discretion, result in the proposal being considered nonresponsive and rejected on that basis.

The proposal shall be submitted as directed in the "Notice to Contractors" under sealed cover plainly marked as a proposal, and identifying the project to which the proposal relates and the date of the bid opening therefor. Proposals which are not properly marked may be disregarded at the sole discretion of City.

2-1.3 Disqualification of Bidders

Section 2-1.10, "Disqualification of Bidders," of the Standard Specifications is replaced with the following:

Any one or more of the following causes may, at City's sole discretion, be considered as sufficient for the disqualification of bidder and the rejection of their bid or bids:

1. More than one proposal from an individual, firm, partnership, corporation, or combination thereof under the same or different names is received, all such proposals will not be considered.
2. Evidence of collusion among bidders.
3. Lack of competency as revealed by any financial statement, as may be required by the special provisions, or by experience or plant and equipment statements submitted.
4. Lack of responsibility as shown by past work on any Public Works project for any public entity judged from the standpoint of workmanship and progress.
5. Incomplete work on any Public Works project for any public entity which, in the judgment of the City, might hinder or prevent the prompt completion of additional work if awarded.
6. Being in arrears on any existing Public Works contract for any public entity, in

- litigation with the City, or having defaulted on a previous contract with any public entity.
7. Failure of the bidder to have a valid Contractor's license in the class specified in the Notice to Contractors at the time of bid opening.
 8. Failure of the bidder to provide prices for all items in the proposal, including alternatives, or submitting an incomplete or otherwise non-responsive proposal.
 9. Any other ground which the Engineer determines, in the Engineer's sole discretion, significantly impairs the ability of the Contractor to perform on a City project. In making this determination, the Engineer may consider, without limitation, items such as any previous or current prevailing wage violations by the bidder, the number of stop notices on any previous Public Works project for any public entity performed by the bidder, and the existence of past or current agreements with any other public entity to not bid on Public Work projects.

Section 3: Award and Execution of Contract

3-1 AWARD OF CONTRACT

The bidder's attention is directed to the provisions in Section 3, "Award and Execution of Contract," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

3-1.1 Basis for Award

The City reserves the right to reject any and all proposals.

The award of Contract, if it is awarded, will be made within forty-five (45) days after the opening of bids to the lowest responsive and responsible bidder who's Proposal complies with all the requirements prescribed. If two or more bids are the same and lowest, the City may accept either bid it chooses at its sole discretion. If the lowest responsive and responsible bidder refuses or fails to execute the contract, the City may award the contract to the second lowest responsive and responsible bidder. Such award, if made, will be made within sixty (60) days after the opening of the proposals. If the second lowest responsive and responsible bidder refuses or fails to execute the contract, the City may award the contract to the third lowest responsive and responsible bidder. Such award, if made, will be made within seventy-five (75) days after the opening of the proposals. The basis of award may proceed in like manner until the City Engineer either finds a responsive and responsible bidder willing to be awarded the contract or determines that it is not in the best interest of the City to proceed further. The periods of time specified above within which the award of contract may be made shall be subject to extension for such further period as may be agreed upon in writing between the City Engineer and the bidder concerned.

All bids will be compared on the basis of the Engineer's estimate of the quantities of work to be done. The Engineer's estimate of construction quantities is approximate only, being given as a basis for the comparison of bids. The City does not expressly or by implication agree that the actual amount of work will correspond therewith, and reserves the right to change the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or expedient in accordance with the Special Provisions.

Bid protests are to be submitted, in writing, three (3) working days after the bid opening; failure to submit a bid protest within three (3) days will be cause for rejection. Only general contractors who submit a bid may submit a protest.

Bid protests are to be delivered to the following address:
City of Menlo Park, City Engineer, 701 Laurel Street, Menlo Park, CA 94025

3-1.2 Add Alternate Consideration

When Add Alternates are included in the Pay Item Pay Schedule, the low bid will be determined by adding each of the Add Alternate Bids to the Base Bid in ascending numerical/alphabetical sequence. Once the low responsive and responsible bidder has been identified in the preceding manner, the City may elect to award the Base Bid item alone or any or all Add Alternate items, in any sequence, to that low responsive and responsible bidder, even if the resulting contract amount no longer represents the lowest total price for the particular items chosen.

Where the Base Bid and Bid Alternate bid schedule contains bid items with identical names (e.g. Mobilization and Demobilization, Traffic Control, Install Signing and Striping, etc.), then contractor shall submit separate contract prices for these items specific to the Base Bid and Bid Alternate scopes of work. Refer to the Project Bid Schedule referenced within these General Provisions for additional information.

3-2 Contract Bonds

3-2.1 Payment and Performance Bonds

The successful bidder shall furnish a Payment Bond and a Performance Bond in accordance with Section 3-1.02, "Contract Bonds" of the Standard Specifications and these special provisions.

Forms of Payment and Performance Bonds can be found with the Proposal and Contract Book. Each of the bonds shall be in the amount of at least one-hundred percent (100%) of the amount of the Contract.

3-2.2 Maintenance Bond and Landscaping Warranty

The Contractor shall guarantee the entire work constructed under the Contract to be free of defects in material and workmanship for a period of one-year following the date of the Public Work Director's acceptance of work unless a different warranty period is mutually agreed upon in writing.

The Contractor shall agree to make, at his own expense, any repairs or replacements made necessary by defects in materials or workmanship that become evident within said warranty period. The Contractor shall further agree to indemnify and hold harmless the City and Engineer, their officers, agents and employees against and from all claims and liability arising from damage and injury due to said defects.

Upon receipt of written order from the Engineer, the Contractor shall make all repairs and replacements within the time indicated on the Maintenance Bond required below. If the Contractor fails to make the repairs and replacements within said period of time, the City may do the work and the Contractor and his surety shall be liable to the City for the cost of the work.

The guarantee and conditions specified above shall be secured by a Maintenance Bond, which shall be delivered by the Contractor to the City prior to City Council acceptance of the work and release of the Performance Bond. Said bond shall be in the form included in the Proposal & Contract Book, and it shall be executed by a surety company or companies satisfactory to the City in the amount of ten (10) percent of the Contract Price or \$1,000.00, whichever is greater. Said bond shall remain in force for the duration of the warranty period specified.

If landscaping and irrigation are part of the project, the City will retain - in addition to the Maintenance Bond described above - a cash amount equal to the greater of \$1,000.00 or ten (10) percent of the cost of all landscaping and irrigation improvements, as shown on the Pay Item Price Schedule of the Contract, as a warranty for maintenance and replacement of landscaping and irrigation material during the plant establishment period. The landscaping and irrigation cash warranty shall operate in the same fashion as the Maintenance Bond described above, and shall remain in full effect until the end of the plant establishment period as generally described in Section 20-4.08, "Plant Establishment Work" of the Standard Specifications as modified in these Special Provisions.

3-3 Insurance Policies

Section 3-1.025, "Insurance Policies," of the Standard Specifications is replaced with the following:

The Contractor shall provide, as part of the Contract Documents, completely filled-in copies of the forms included in the Proposal package that pertain to insurance policies. Additional insurance requirements are to be found in Section 7 of these Provisions.

Section 4: Scope of Work

4-1 General

The work shall conform to the provisions of Section 4, "Scope of Work," of the Standard Specifications and these Special Provisions.

4-2 Scope of Work

The project is located at 410 Ivy Drive, Menlo Park, CA 94025, at the Belle Haven Child Development Center. The scope of work generally includes replacement of five (5) gas HVAC systems with new heat exchange HVAC equipment, including adding economizers and building system controls, LED lighting upgrades, replacement of dishwashers, and replacement of existing gas & electric ranges with electric induction ranges. Please refer to the attached Plans and Appendices for additional information.

4-3 Adjustments to Contract Price

The Engineer retains the option, at his/her sole discretion, whether or not to adjust unit bid or Contract prices as described in Section 4-1.03B(1), "Increases of More Than 25 Percent," or 4-1.03B(2), "Decreases of More Than 25 Percent," of the Standard Specifications. Refer to Section 4-5.2 for additional information.

4-3.1 Revocable Contract Items

Bid items noted as "Revocable" in the Proposal will be used to calculate the Project's apparent low bidder but may be deleted after bid award, either partially or entirely, at the sole discretion of the City. Bid items revoked from the contract shall be credited to the City based on the contractor's proposal / bid for that line item and no additional compensation shall be allowed therefor.

4-4 Request for Information Procedures

The contractor may submit a Request for Information (RFI) for clarifications in Owner-prepared Contract Documents. An RFI may result in the contractor submitting a change order per Section 4-5 herein.

Whenever Contractor requires information regarding the Project or Owner-prepared Contract Documents, or receives a request for such information from a Subcontractor, Contractor may prepare and deliver an RFI to the City. Contractor shall use RFI format provided on approval by Owner. Contractor shall not issue an RFI to Owner solely to clarify Contractor-prepared Construction Documents.

Where feasible, the Contractor must submit time critical RFIs at least 30 Days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI

Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor shall not be entitled to additional compensation for the effort required to submit the RFIs. Contractor shall be responsible for Owner's administrative costs for

answering RFIs where the answer- could reasonably be found by reviewing the Contract Documents, as determined by the Engineer; at his/her discretion, such costs may be deducted from progress payments or final payment.

The City will respond within fourteen (14) Days from receipt of RFI with a written response to Contractor. If Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change. If the City believes the response is incomplete, Contractor shall issue another RFI to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition. Contractor shall not issue RFI's with respect to means and methods for which Contractor is responsible.

4-5 Change Orders

At any time during the progress of the work, and without in any way rendering void the Contract, the City may order alterations, additions or deductions from the work by change order, without notice to sureties. When so ordered in writing by the Engineer, the Contractor shall proceed with work as directed by the change order. At a minimum, the change order shall describe the change in the work, the adjustment of the contract sum based on the provisions below (if any), and the adjustment of the contract time (if any) and other requirements as listed herein. The Contractor shall not be entitled to any extension of time for the completion of the work by virtue of any change order unless the change order specifically affects the controlling operation and provides for this.

Authorization for Change Orders:

The Contractor recognizes that the City is a public agency and that it can only act through its duly authorized agents. In this regard, the Contractor agrees that only written change orders, executed by the governing body of the City, shall be valid. The Engineer shall have no authority to issue a change order unless so specifically authorized, and no person shall have authority to issue any oral change order.

Liability for Unapproved Change Orders:

Unless a valid change order is initiated and issued per Section 4-5 herein, all changes in the work performed by the Contractor shall be at the Contractor's own risk, and shall not be entitled to any additional compensation. Furthermore, the Contractor may be required to make the work conform to the project Plans and Specifications. No act or series of acts by the City during the course of the contract shall be deemed to constitute a waiver of this requirement.

4-5.1 Initiation of Contract Change Orders

A valid change orders must be initiated in one of the following methods:

Contractor Initiated Change Orders

The contractor may initiate a Change Order by submitting a Change Order Request (COR) to the Engineer in writing. All CORs must contain a complete breakdown of costs of credits, deducts and extras; itemized materials, labor, taxes, markup, and any requested changes to Contract Time. All subcontractor work shall also be indicated. Individual entries on the COR form shall include applicable Schedule of Values code with all amounts determined. The Engineer will commence review upon receipt of the complete COR with all requisite detail.

If the Engineer accepts a COR, the Engineer will prepare a Change Order for City and

Contractor signatures memorializing approval of the COR. If the COR is not acceptable to the City because it does not agree with the Contractor's proposed cost and/or time, the Engineer will provide comments thereto. Contractor will then, within (7) seven days (except as otherwise provided herein) submit a revised COR.

City Initiated Change Orders

The City may initiate changes in the work or contract time by issuing either a Request for Quotation (RFQ) or Change Order to the Contractor. The RFQ will detail all proposed changes in the work and request a quotation of changes in the Contract Sum and Time (if any) from the Contractor. Unless otherwise directed by the Engineer, the Contractor shall furnish a cost proposal within (5) working days from the City's issuance of the RFQ for the Engineer's review. Unless otherwise directed by the Engineer, the City shall thereafter have (5) working days to respond to the contractor. Subsequently, if both parties agree on price and time for the work, the City will sign and issue a Change Order approving the change order.

Unilateral Change Orders:

A Unilateral Change Order may be issued by the Engineer, in writing, without the Contractor's signature where the Engineer determines that it is in the City's best interest to proceed with the work, and the change does not materially alter the scope of work. The Contractor shall be deemed to have accepted the terms of any Unilateral Change Order unless the Contractor submits a written protest with respect to the change order, no later than five (5) working days following the Contractor's receipt of the change order.

4-5.2 Change Order Pricing

At the sole discretion of the Engineer, the City may pay for change order work based on one, or a combination, of the following:

Bid item unit prices:

Where the change order work involved is covered by the unit price contained in the Contract Documents (including the Pay Item Price Schedule / Project Bid Schedule), then Change Orders shall be calculated based upon the bid item unit prices stated in the Project Bid Schedule and no additional markup for overhead or profit will be allowed. This section pertains to bid quantities increases / decreases of more than 25%.

Agreed upon unit prices or lump sum prices:

If there are no established unit prices for the extra work, the Contractor and the City may agree upon unit prices or lump sum (LS) prices, which shall be used to increase or decrease the contract sum. When extra work changes the scope of bid item work, payment can be made by paying an agreed upon unit price adjustment or lump sum price adjustment of compensation.

Force account:

In the absence of established unit prices or a price agreement, the Engineer may adjust the contract by force account. When extra work is to be paid on a force account basis, the labor, materials and equipment used in the performance of that work shall be paid in accordance with the Standard Specifications and pursuant to the definitions and terms below:

- Labor: Labor costs shall be based on the prevailing wage scale for each craft or type of work. Employer payments for payroll taxes and insurance, health and

welfare, pension, vacation, and other direct labor costs shall be included and will be calculated as the Labor Surcharge stipulated in the State of California, Labor Surcharge and Equipment Rental Rates book.

- Materials: Materials cost shall be the cost of all materials purchased by the Contractor and used in the extra work and shall be the actual cost of such materials, including sales taxes, freight and delivery charges. The City reserves the right to approve materials to be furnished by the Contractor, sources of supply or, if necessary, to furnish the materials to the Contractor. No compensation will be paid to the Contractor for any material furnished by the City or for materials not used.

Equipment Rental: The Contractor will be allowed the actual rental rate of equipment, prorated over the time the machinery or equipment is required. For Contractor owned equipment, this rate shall be as stipulated in the State of California, Labor Surcharge and Equipment Rental Rates book. In addition, the Contractor will be allowed reasonable move-in and move-out charges, if applicable. All equipment shall, in the opinion of the Engineer, be in good working order, good condition, and suitable for its purpose. Equipment or tools having a replacement value of \$700 or less, whether or not consumed by use, shall be considered small tools and no payment will be made therefore.

Other Services or Expenditures: The City may authorize and approve payment for work performed by special forces or necessary services and expenditures other than labor, materials, and equipment rental.

4-5.3 Change Order Documentation

Schedule Adjustments:

Contractor shall revise its Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item. The change order shall be billed within the same calendar month's invoice during which the Change Order was executed. The Contractor shall further revise the Progress Schedules prior to the next monthly pay period, to reflect said Change Order and enter changes in the Project Record Documents prior to the next monthly pay period. Refer to Section 9 herein for additional information.

Required Documentation:

For all changes and cost adjustments requested, Contractor shall provide documentation of change in Contract Amounts asserted, with sufficient data to allow evaluation of the proposal. All electrical change orders shall be estimated using NECA I Normal production rates. In all requests for compensation, cost proposals, estimates, claims and any other calculation of costs made under the Contract Documents, Contractor shall breakout and quantify costs of labor equipment and materials identified herein for Contractors and subcontractors of any tier.

The contractor shall, on request, provide additional data to support computations for:

- Quantities of products, materials, labor, and equipment
- Taxes, insurance, and bonds (where applicable)
- Adjustments Contract Time adjustments and new scheduling revisions
- Credit for deletions from Contract, similarly documented

The contractor shall support each claim or computation for additional cost with:

- Origin and date of claim or requested for additional compensation
- Dates and times work was performed and by whom
- Time records and wage rates paid
- Invoices for products, materials, equipment, subcontracts, similarly documented
- Credit for deletions from Contract, similarly documented

The City shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including any Unilateral Change Order Work. This right shall be specifically enforceable, and any failure of Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been.

4-5.4 Payment and Measurement

Change Order Compensation is all Inclusive.

Except as provided expressly below regarding changes that extend the Contract Time, payment of calculated cost of extra work constitutes full and complete compensation for costs or expense arising from the extra Work, and is intended to be all inclusive. Any costs or risks not delineated within cost of labor, equipment or materials herein, shall be deemed to be within the costs and risks encompassed by the applicable Markups and unallowable in any separate amount.

Contractor waives claims for any further or different payment of cost and risk items delineated herein, other than the allowable percentage markup on costs set forth in the Contract Documents; such separate, further or different cost or risk items shall be unallowable, waived and liquidated within the allowable percentage markup. Contractor shall recover no other costs or markups on extra work of any type, nature or description.

Force Account Payments:

Refer to the Change Order Template, attached hereto, for Force Account Payments. All charges shall be recorded daily and summarized. The contractor, or his authorized representative, shall complete and sign the Change Order Template each day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; and a list by size type and identification number of equipment and hours operated.

When urgent circumstances require an expeditious decision, a flat "move-in" charge, to include all costs associated with delivering and removing equipment not being used or reasonably expected to be used on the project, may be agreed to in advance by the Engineer in lieu of the itemization of costs.

Force Account Markups:

- A. Markup on Direct Cost of labor and materials for extra Work shall be **15%**. Markup on Direct Cost of equipment for extra Work shall be **15%**. When extra Work is performed by Subcontractors, regardless of the number of tiers, the Total Markup on Costs shall not exceed **20%**.
- B. The contractor and its subcontractors shall divide the 20% as they may agree. Under no circumstances shall the total Markup on any extra Work exceed twenty (20) percent, stated as a percent of the Direct Cost of labor, equipment and materials. This limitation shall apply regardless of the actual number of subcontract tiers.

On proposals covering both increases and decreases in Contract Sum, Markup shall be

allowed on the net increase only as determined above. When the net difference is a deletion, no percentage for Markup shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.

Bonds, Insurance, and Taxes (BIT). All state sales and use taxes, applicable County and applicable City sales taxes, shall be included. Federal and Excise tax shall not be included. No mark-up on BIT will be allowed. Bonds and Insurance cost shall not exceed **1.5%** of the cost of the price change.

CITY OF MENLO PARK – FORCE ACCOUNT TEMPLATE

DATE: _____

CONTRACTOR: _____

IN RESPONSE TO: _____

(RFI#, RFQ#, SI#)

SUMMARY OF COST

	General	Tier 1 Sub	Tier 2 Sub	Total
	Contractor	[Firm Name]	[Firm Name]	
Labor				\$0
Materials				\$0
Equipment				\$0
Total Cost	\$0	\$0	\$0	\$0
Mark Up on Total Cost (15%)				\$0
Mark Up on Tier 1 Sub				\$0
Mark Up on Tier 2 Sub				\$0
Taxes				\$0
Bonds & Insurance (1-1/2%)				\$0
GRAND TOTAL	\$0	\$0	\$0	\$0

Requested Change in Contract Time (Days): _____

By Contractor:

Signature_____
Date

City Approval:

Assistant Director of Public Works_____
Date_____
Project Resident Engineer_____
Date

Section 5: Control of Work

5-1 General

The work shall conform to the provisions of Section 5, "Order of Work," of the Standard Specifications and these Special Provisions.

5-2 Plans, Shop Drawings, and Submittals

The following is added to Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications:

Shop Drawings and other Submittals, as required in the Plans or elsewhere in these Special Provisions, shall be provided to the Engineer prior to furnishing or fabricating the products or performing the work to which they apply.

The Engineer shall have seven (7) working days to review any one Submittal or shop drawing and for each resubmittal. Rejection of Submittals or shop drawings shall not constitute delays to the project: it shall be the Contractor's responsibility to provide the correct Submittals in sufficient time to avoid delaying the work.

Unless otherwise required in the Plans or elsewhere in these Special Provisions, the Contractor shall submit a minimum of three copies of each submittal. Two of those will be retained by the City and the third will be returned to the Contractor with evidence of approval, and it will be the Contractor's responsibility to make copies for their own or their subcontractors' use. If submittals are physical samples, the Contractor shall make prior arrangements with the Engineer if more than one approved sample is desired back.

5-2.1 Working Drawings and Shop Drawings

- A. Submit new prepared information drawn accurately to scale and clearly labeled. Highlight, encircle, or otherwise indicate deviations from the Contract Documents.
- B. Include at least the following information:
 - C. Full name of the project.
 - D. For a drawing or other prepared document:
 - E. Date of preparation.
 - F. Name, address and phone number of firm that prepared the document.
 - G. Name of person responsible for document preparation.
 - H. License or other certification of responsible person, if applicable.
 - I. Legend or other identification of symbols used.
 - J. Dimensions or scale on graphics.
 - K. Notation of dimensions established by field measurement.
 - L. References to specified standards.
 - M. Identification of all items or materials, either directly or by reference to other documentation provided.
 - N. Such notes as are necessary to explain the functioning, applicability and suitability of the subject of the drawings.
- C. Sheet Size: Except for templates, patterns and similar full size drawings, submit drawings on sheets at least 8-1/2" by 11 inches but not larger than 36 inches by 48 inches). The scale and drawing size shall be appropriate for displaying the necessary information sufficiently clearly.
- D. Submit three (3) black or blue line prints for the Engineer's review. The Engineer will return one print stamped with approval or further action required. Contractor shall

make copies of the approved print as needed. One copy shall be maintained clean except for “red-lined” record of field revisions, which shall be used in preparation of the final “as-built” record.

- E. Do not use working drawings or shop drawings without a final stamp indicating approval.

5-2.2 Manufacturers’ Documentation

- A. When documentation of a product’s suitability is demonstrated by providing documentation from the manufacturer, the documentation needs to show clearly and explicitly that the proposed item or product complies with the Project requirements.
- B. If the manufacturer’s documentation covers multiple models or alternates, the proposed model or item needs to be selected and unmistakably identified, and its specifications need to be presented clearly.

5-2.3 Samples

- A. Provide samples identical to the proposed item or product. Identify them as described under “Submittals Identification” below.
- B. Unless otherwise specified, submit two samples. One will be retained by the Engineer. By prearrangement in specific cases, a single sample may be submitted for review and when approved, be installed in the work at a location agreed upon by the Engineer or his authorized representative.
- C. Unless the precise color and pattern are specifically called out in the Plans or elsewhere in these Special Provisions, when a choice of color or pattern is available in the specified product submit the accurate color and/or pattern to the Engineer for selection.

5-2.4 Submittals Identification

- A. Consecutively number all Submittals (one number to cover all identical copies or samples within a single Submittal). When an item is resubmitted for any reason, transmit under a new letter of transmittal with a new transmittal number. On resubmittals, cite the original Submittal number for reference.
- B. Accompany each Submittal with a Transmittal form identifying and describing the Submittal, labeled with the date that the Submittal is conveyed to the City. Always show the Submittal number in the Transmittal.
- C. Identify occurrence(s) of item or product in the contract plans, by referencing sheet and detail number(s), or in the Standard Specifications or these Special Provisions by section number.
- D. Maintain an accurate Submittal Log for all the duration of the work, showing status of all Submittals at all times. Make this log available to the Engineer for his review upon request.

5-2.5 Submittal List

The Contractor shall submit to the Engineer the following items within the outlined timeframe, unless otherwise specified.

Submittal List		
Submittal	Section	Due Date
CPM Baseline Construction Schedule	8-5.1	At the preconstruction conference
Construction Sequencing Plan	11	Two weeks after the pre-con
Traffic Control Plan	12-2	At least two weeks prior to commencing any work on a street segment
Notification of Residents and Businesses (two week notice)	12-5.1	At least seven (7) working days prior to distribution
Notification of Residents and Businesses (72 hour notice)	12-5.1	At least seven(7) working days prior to distribution
Waste Management Plan	13-1.3	Five (5) working days after pre-construction conference
Waste Management Daily Transport reports	13-1.4	Prior to beginning work
Video and Photograph Survey	15-1	Prior to beginning work
SWPPP (if applicable to the project)	14-1	Within ten (10) business days after Contract approval
Any other submittal required by these special provisions and Engineer	-	As required by the Engineer

5-3 Conformity with Contract Documents; Discrepancies

The following is added to Section 5-1.03, "Conformity with Contract Documents and Allowable Deviations," of the Standard Specifications:

The Contractor shall not take advantage of any apparent error or omission in the Contract Documents. In the event Contractor discovers any apparent error, discrepancy or omission, the Contractor shall immediately inform the Engineer whose decision on the matter shall be final.

5-4 Coordination and Interpretation of Plans, Standard Specifications, and Special Provisions

Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications, and Special Provisions," of the Standard Specifications is revised as follows:

The second bulleted paragraph of Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications, and Special Provisions," is replaced with the following:

Unless otherwise overruled by the Engineer, the order of precedence in case of conflict shall default as follow, from highest to lowest:

1. General and/or Special Provisions
2. Project building permit conditions
3. Technical Specifications
4. Project Plans
5. City Standard Details
6. Revised Standard Specifications
7. Standard Specifications
8. Revised Standard Plans
9. Standard Plans
9. Supplemental Project Information

Specific specification shall govern over a general specification, and specifications in a section shall govern over a specification referenced by that section.

5-5 Order of Work

The following is added to Section 5-1.05, "Order of Work," of the Standard Specifications:

5-5.1 General Requirements

It is the Contractor's responsibility to abide by the contract documents (including all requirements outlined in the Plans, specifications, and Special / Technical specifications). Any exceptions to the above must be authorized by the City Engineer in writing prior to work. Failure to meet minimum contract specifications (for any contracted item of work) must be rectified at the Contractor's sole expense and to the satisfaction of the Engineer.

Work under this contract is subject to a permit by the City's Building Department. No work shall commence until the permit is issued. The City will procure the permit prior to construction and no additional payment will be allowed in the contractor's bid. The terms and conditions of the building permit shall apply to this contract in addition to these specifications and appendices.

The Contractor shall efficiently sequence the various phases of work to avoid conflicts between trades or subcontractors. No additional time shall be granted if the Contractor cannot complete the work on schedule due to his failure to maintain an efficient and orderly progression of work. The progression and sequence of the various phases of the work shall be approved by the Engineer. Work within a particular location or area shall not be started without prior approval of the Engineer.

Zero Emissions Landscape Equipment Ordinance

The City requires the use of zero emission landscaping equipment for all construction and maintenance projects. Consequently, equipment such as leaf blowers and string trimmers, shall be manual, electric, or battery powered. Operating gas powered landscaping equipment is strictly prohibited and may result in deferred payment (for applicable bid items) until corrective action is taken to the Engineer's satisfaction.

5-5.2 Project Specific Schedule Requirements

Project specific conditions and notes are included in the project plans (attached hereto as Appendix C). The contractor is alerted to additional construction notes in the Plans stipulating additional requirements and pre-requisites during the work. These conditions shall apply to the entirety of these Contract Documents (including the specifications, special provisions, and Plans and appendices). The Engineer shall have sole discretion of which document overrules in the event of conflicts between the plans and these specifications / special provisions, otherwise, Section 5-4 shall apply. Key provisions from plan notes are listed below (not comprehensive):

The contractor shall submit a **Construction Sequencing Plan** detailing the phasing of work while minimizing impact to school operations and providing public access to the site during construction. This Plan shall address the provisions in this section (numbered below) and must include an exhibit illustrating how work will be sequenced (classroom by classroom). Furthermore, the Plan must show any safety measures, traffic controls, and other temporary devices required to quarantine the work zone during construction. The

Plan must be reviewed and approved by the Engineer, and/or City Building Department, prior to commencement of work. Full compensation for drafting and submitting the Construction Sequencing Plan, to the City's satisfaction, shall be included in the contractor's bid for "Mobilization and Demobilization" and no further compensation shall be allowed therefor.

1. The Project is located at the Belle Haven Child Development Center which operates as a preschool and child care center that operates year-round. School children, faculty and staff will be onsite throughout the project and phasing of equipment installation is required for successful completion of the work. The facility has a multi-use space in the Administration Building and four (4) individual classrooms that are connected with small kitchens between the rooms. Facility operational hours are from 7:30am to 5pm Monday through Friday. The contractor shall refer to the Plans and Appendices included herein for additional information.
2. Provide advance notice of all planned Work in classrooms and occupied areas to allow the Engineer sufficient time to coordinate room access and temporary relocation of students with school staff. When students and staff are relocated, the Work must be completed in that room, with the system inspected and fully operational before moving to the next room.
3. Prior to moving to a new classroom space, the Contractor shall give the BHCDC staff at least three working days to reconfigure the classroom to allow resumption of educational programming and prepare the next classroom for work.
4. Submit and maintain a room-by-room construction schedule identifying each affected space, the planned date and time of Work, the anticipated duration, and the period during which the room must remain vacant.
5. Update the schedule weekly and provide the revised schedule to the Engineer for coordination with school administration and staff.
6. No Work shall begin in any classroom until the Contractor has confirmed the room is vacant and available for construction.
7. Perform the Work so that students and staff are not exposed to construction noise, dust, unsafe conditions, loss of lighting, or loss of HVAC within occupied instructional areas.
8. Due to ongoing school operations, Work may be performed at the following times:
 - a. **Daytime Work:** work may be performed during the following daytime hours. This schedule is tentative and may change based on hours stipulated in the building permit. Note that no work is allowed during nap-time without explicit permission from the chief operator of the school (nap time is assumed from 12:30PM-3:00PM unless otherwise noted).
 - i. **8:00 AM to 12:30PM**
 - ii. **12:30PM to 3:00 PM (assumed nap time)**
 - iii. **3:00 PM to 6:00PM**
 - b. **Night Work:** Where required, night time work shall only be allowed where approved by the Engineer and/or City Building Department on a case-by-case

basis. Work may be performed between **6:00 PM and 6:00 AM**.

- c. Contractor shall schedule the Work so that no construction operations occur during prohibited hours.
 - d. Contractor shall coordinate all work activities with the Engineer and shall perform louder, more disruptive, or otherwise sensitive operations during approved hours most appropriate for the site conditions and operational constraints.
 - e. Any work outside the hours stated above shall require prior written approval and shall not be grounds for additional compensation.
9. Clearly identify all after-hours and shift Work in the schedule and coordinate such Work in advance with the Engineer and school administration.
10. Work in occupied classrooms during normal school operations will not be permitted unless specifically approved in advance.
11. It is the contractor's responsibility to thoroughly review the Plans (Appendix C) and other appendices thoroughly prior to initiating work. Any discrepancies, revisions, or questions arising from this review shall be brought to the Engineer's attention immediately.

5-6 (Intentionally left blank)

5-7 (Intentionally left blank)

5-8 Inspection

The following is added to Section 5-1.08, "Inspection," of the Standard Specifications:

The Engineer may authorize a third-party firm or individual to provide Inspection services for the Project. If so, that firm or individual shall carry the authority designated to them as though they were an employee of the City.

All Building Department inspections shall be coordinated directly with the City's Building Department under the conditions and requirements of the Building Permit. Inspections shall be scheduled during normal business hours, regardless of Contractor's schedule.

5-9 Final Inspection

Section 5-1.13, "Final Inspection," of the Standard Specifications shall be replaced with the following:

In each of the classrooms and the administration building, when the work has been essentially completed, the Engineer will inspect it in detail. Any corrective, remedial, or work not completed to meet contract requirements will be noted on a punch list to be conveyed to the Contractor. The Contractor shall complete all items prior to requesting a Final Inspection for that room and proceeding to the next scheduled classroom.

All Building Department inspections shall be coordinated directly with the City's Building Department under the conditions of the Building Permit.

5-10 Record Documentation

Prior to receiving final payment, the Contractor shall provide to the City a complete listing of all aspects of the work that vary from the original Contract Documents. All revisions due to change orders, Engineer's directives, field-decisions, and Contractor's judgment shall be included. The listing shall indicate the nature of each revision and its precise location.

Prior to receiving final payment, the Contractor shall provide to the City a "red-lined" set of Plans that identifies all aspects of the work that vary from the original Contract Documents. The Contractor shall maintain an "office-copy" set of Plans on which all changes are marked as soon as they occur. All revisions due to change orders, Engineer's directives, field-decisions, and Contractor's judgment shall be noted, indicating the nature of the revision and its precise location. It shall remain available for the Engineer's inspection throughout the course of the project.

5-11 Payment

Full compensation for conforming to the provisions in this section shall be considered as included in the Contract prices paid for the various items of work, and no additional compensation shall be allowed therefore.

Section 6: Control of Materials

6-1 General

Attention is directed to the provisions of Section 6, "Control of Materials," of the Standard Specifications and these Special Provisions.

6-2 Storage of Materials

The following is added to Section 6-1.03, "Storage of Materials," of the Standard Specifications:

Stockpiling of materials or spoils within the public right-of-way shall not be permitted unless explicitly authorized in advance, in writing, by the Engineer.

6-3 Items delivered and Stored Prior to Installation

Unless approved by the Engineer in advance, in writing, the Contractor shall retain ownership of all materials and components of the work until they are installed, and payment will not be made for them until that time. Materials stockpiled or items stored in the vicinity of the project shall not be considered installed until they have been set and secured in their permanent location.

6-4 Specific Brand or Trade Name and Substitution

Sections 6-1.05, "Trade Names and Alternatives," of the Standard Specifications is replaced with the following:

For convenience in designation on the project plans or in these special provisions, certain articles, or materials, to be incorporated in the work may be designated under a trade name or the name of a manufacturer and catalog information and followed by the words "or equal." The use of an alternative article or material which is of equal quality and of the required characteristics or the purpose intended will be permitted, subject to the following requirements:

- The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor and the Contractor shall furnish all information necessary as required by the Engineer. The Engineer shall be the sole judge as to the quality and suitability of alternative articles or materials and the Engineer's decision shall be final.
- No actions relating to the review of "approved equivalent" materials will be made until requested by the Contractor in writing and accompanied by data as to the equality of the proposed material. Such request shall be made within thirty-five (35) days after the award of contract and cause no delay. Bid proposals shall otherwise adhere to materials described in the project specifications.
- Wherever in the contract documents the name or the name and address of a manufacturer or supplier is given for a material, product, or equipment, or if any other source of a material, product, or equipment is indicated therefor, such information is given for the convenience of the Contractor only, and no limit, restriction, or direction is indicated or intended thereby, nor is the accuracy or reliability of such information guaranteed. It shall be the responsibility of the Contractor to determine the accurate identity and location of any such manufacturer, supplier, or other source of any material, product, or equipment called for in the contract documents.

- Approval by the Engineer of substitute item proposed by the Contractor shall not relieve Contractor of the responsibility for full compliance with the contract documents and for adequacy of the substituted item. The Contractor shall also be responsible for resultant changes and all additional costs which the substitution requires in its work, the work of subcontractors and of other contractors and shall effect such changes without cost to the City.

6-5 Material Submittal List

The manufacturers/producers of the materials proposed by the Contractor for use under this contract shall be identified on the following "Material Submittal List" forms and submitted, for approval by the Engineer, within twenty-one (21) calendar days after the award of the contract. Contractor shall submit two copies of each submittal.

The list supplied is not intended to be comprehensive and no claim for its completeness is implied. Therefore, submittals of the completed list shall not relieve the Contractor of supplying all information needed or of complying with any of the other requirements of the specifications. Revised lists may be issued and items may be added to the list supplied. Manufacturer's/producer's specifications shall be supplied along with the material submittal list form for all applicable products on the list. Certificates of Compliance shall be submitted in accordance with Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

6-6 Payment

Full compensation for conforming to the provisions in this section shall be considered as included in the Contract Prices paid for the various items of work, and no additional compensation shall be allowed therefore.

Section 7: Legal Relations and Responsibility

7-1 General

The Contractor shall conform to the provisions of Section 7, "Legal Relations and Responsibility," of the Standard Specifications and these Special Provisions.

7-2 Laws to be Observed

7-2.1 Prevailing Wages:

The following is added to Section 7-1.01A(2), "Prevailing Wage," of the Standard Specifications:

The City Council by Resolution No. 77-236 has adopted the general prevailing wage rates determined by the Director of Industrial Relations, State of California, to be part of this Contract. The general prevailing wage rates applicable to the County of San Mateo are listed in the publication titled "General Prevailing Wage Rates." This document is hereby made part of this Contract by reference. Copies of the current versions of this document are on file in the Public Works Department, City Hall, 701 Laurel Street, Menlo Park, California. The published rates applicable to this Project on the Bid Opening Date shall be the Contract rates.

7-3 Labor Non-Discrimination

In addition to the requirements of Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, the following apply.

- A. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided, setting forth the law prohibiting discrimination and advising anyone who feels they are being discriminated against to advise the Fair Employment Practices Commission.
- B. The Contractor shall make written progress reports on the performance of the Minority Employment Program (M.E.P.) at intervals established by the City Manager. The Contractor, however, is encouraged to submit additional reports whenever deemed relevant to the M.E.P.
- C. A written record of all meetings, conferences, progress meetings and reports thereof and of all M.E.P. activities will be maintained at the jobsite and will be available for inspection at all reasonable times by City officials.
- D. The City shall monitor the performance of the M.E.P. until completion of the contract:
 - A. Enforcement procedures may include site inspections throughout the length of the Contract and according to the changing work schedule requiring different work crews.
 - B. Site inspections and other compliance checks will be conducted by City, and may be coordinated with other standard inspections to avoid interference with work crews.
 - C. The Contractor may appeal any ruling of the City Manager under the M.E.P. to the City Council. However, the action of the City Council on the matter will be final.

7-4 Contractor

7-4.1 Independent Contractor

At all times during the term of this Agreement, the Contractor shall be an independent contractor and shall not be an employee of City.

7-4.2 Contractor Not an Agent of City

Except as the City may specify in writing, the Contractor shall have no authority, express or implied, to act as an agent of the City in any capacity whatsoever. The Contractor shall have no authority, express or implied, pursuant to this Agreement, to bind the City to any obligation whatsoever.

7-5 Project Site Maintenance

7-5.1 Air Pollution

The following is added to Section 7-1.01F, "Air Pollution Control," of the Standard Specifications:

Particular attention is directed to the requirements of the Bay Area Air Quality Management District (939 Ellis Street, San Francisco 94109, Phone: (415) 771-6000). (www.baaqmd.gov)

7-5.2 Water Pollution Prevention

Section 7-1.01G, "Water Pollution," of the Standard Specifications is replaced with the following:

A. General Requirements

a. Non-hazardous Material/Waste Management

i. Designated Area

The Contractor shall propose designated areas of the project site, for approval by the Engineer, suitable for material delivery, storage and waste collection to the maximum practicable extent, near construction entrances and away from catch basins, gutters, drainage courses and creeks.

ii. Granular Material

The Contractor shall store granular material at least 10 feet away from catch basins and curb returns.

The Contractor shall not allow granular material to enter into any storm drain or water course.

When rain is forecasted within 24 hours or during wet weather, the Contractor shall be required to cover granular material and to provide suitable containment to prevent storm water runoff from entering or leaving stockpiled material.

iii. Dust Control

Dust control shall be in accordance to Section 10, "Dust Control," of the Standard Specifications.

iv. Street Sweeping

At the end of each working day, the Contractor shall clean and sweep roadways and on-site paved areas of materials attributed to or involved in the work. The Contractor shall not flush down streets in place of street sweeping.

Contractor is strongly advised to use recycled water for street sweeping whenever possible. See http://bacwa.org/wp-content/uploads/2015/01/FINAL-Truck-Guide_1-28-14-for-Distribution.pdf. The Contractor shall make all effort to purchase recycled water. Redwood City is one agency where recycled water can be purchased by contacting the following telephone number (650) 780-7470. The Contractor shall not flush down streets in place of street sweeping.

v. Recycling

The Contractor shall recycle aggregate material, asphalt concrete, Portland Cement concrete, rock, dirt and bricks at any approved recycling or reuse facility listed on www.RecycleWorks.org under "Construction and Demolition" (or call the RecycleWorks hotline at 1-888-422-2666).

Qualifying facilities must not use more than 20% of the materials for alternative daily cover (ADC) at landfill.

After delivering materials to a facility, the Contractor shall submit to the City original weight tags obtained from the facility for each load. Tags must include the weight of the material received at the facility and must list Menlo Park as the city of origin.

vi. Disposal

At the end of each working day, the Contractor shall collect all recyclable, debris and waste materials and dispose of such materials properly.

The Contractor shall inspect dumpsters for leaks and contact trash hauling contractors to replace or repair dumpsters that leak.

The Contractor shall arrange for regular recyclable and waste materials collection before dumpsters overflow.

b. Hazardous Material/Waste Management

i. Storage

The Contractor shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents and fuels and all hazardous wastes, such as waste oil and anti-freeze.

The Contractor shall store all hazardous materials and all hazardous waste according to the County of San Mateo Regulations.

The Contractor shall keep an accurate up-to-date inventory of hazardous material and hazardous wastes stored on site to assist emergency response personnel in the event of a hazardous material incident.

ii. Usage

When rain is forecasted within 24 hours or during wet weather, the

Contractor shall not apply chemicals in outside areas.

The Contractor shall not over apply pesticides or fertilizers and shall follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability and mixing of chemicals.

iii. Disposal

The Contractor shall arrange for regular hazardous waste collection to comply with time limits on storage of hazardous waste.

The Contractor shall dispose of hazardous waste only at authorized and permitted treatment, storage and disposal facilities and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits for transportation specified in State and federal regulations.

c. Spill Prevention and Control

- i. The Contractor shall keep a spill kit to clean up and contain materials, readily accessible on site.
- ii. The Contractor shall immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and clean up materials. If the waste is hazardous, the Contractor shall handle the waste as described in Section 7-5.2,A.2.c above.
- iii. The Contractor shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.
- iv. The Contractor shall report any hazardous materials spill to the City of Menlo Park Engineering Division at (650) 330-6740

d. Vehicle/Equipment Cleaning

- i. The Contractor shall not perform vehicle or equipment cleaning on site or in the street.

e. Vehicle/Equipment Maintenance and Fueling

- i. The Contractor shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not spill or run off-site into streets, gutters, storm drains or water courses.
- ii. Use secondary containment, such as a drip pan to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed or poured.
- iii. Clean up leaks and spills of vehicles or equipment fluids immediately and dispose of the waste and clean up materials as hazardous waste, described in Section A.2.c above.
- iv. Inspect vehicles and equipment arriving on site for leaking fluids. Leaking vehicles and equipment shall be repaired promptly. Drip pans shall be used to catch leaks until repairs are made.
- v. Recycle waste oil and anti-freeze to the maximum practical extent.
- vi. Comply with Federal, State and City requirements of aboveground storage tanks.

f. Contractor Training and Awareness

- i. The Contractor shall train all employees/subcontractors on the storm water pollution prevention requirements contained in these Special Provisions.
- ii. Inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
- iii. Post warning signs in areas treated with chemicals.
- iv. Paint new catch basins, constructed as part of the project, with "No Dumping, Flows to Bay" stencils.

B. Activity Specific Requirements

a. Concrete, Grout and Mortar Waste Management

i. Material Management

The Contractor shall store concrete, grout and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.

ii. Concrete Truck/Equipment Wash Out

The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drains or creeks.

- iii. The Contractor shall perform wash out of concrete trucks or equipment off-site or in self-contained units on the trucks.

b. Painting

i. Painting Clean Up/Designated Area

The Contractor shall conduct cleaning of painting equipment and tools in a designated area that will not allow run-on of storm water or run-off of spills.

The Contractor shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drain or creeks.

ii. Water-Based Paint

The Contractor shall remove as much excess paint as possible from brushes, rollers and equipment before starting clean up.

To the maximum practicable extent, the Contractor shall dispose of wash water from aqueous cleaning of equipment and tools to the sanitary sewer.

Otherwise, Contractor shall clean equipment in self-contained units, and all wash water shall be disposed of off-site.

iii. Oil-Based Paint

The Contractor shall remove as much excess paint as possible from brushes, rollers and equipment before starting clean up.

To the maximum practicable extent, the Contractor shall filter paint thinner and solvents for re-use.

The Contractor shall dispose of waste thinner and solvent and sludge

from cleaning of equipment and tools and hazardous waste, as described in Section A.2.c above.

c. **Material/Waste Management**

The Contractor shall store paint, solvents, chemicals and waste materials in compliance with the County of San Mateo Hazardous Materials Storage Regulations and all applicable State and Federal regulations. The Contractor shall store these materials in a designated area which will not allow run-on of storm water or run-off of spills.

The Contractor shall dispose of excess thinners, solvents, oil and water-based paint as hazardous waste.

The Contractor shall dispose of dry, empty paint cans/buckets, old brushes, rollers, rags and drop cloths in the trash.

7-5.3 Sound Control Requirements

The following is added to Section 7-1.01I, "Sound Control Requirements," of the Standard Specifications:

The noise level from the Contractor's operations, between the hours of 7:00 a.m. and 10:00 p.m., cannot exceed 60 dBA at a residential property line. All construction noise during the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday, is exempt from the 60 dBA limit except that noise generated by powered equipment may not exceed 85 dBA measured at 50 feet from the source (Ordinance No.892). Note the limitation on working hours in Section 5-5.2 and 8-6.

Said noise level requirement shall apply to all equipment on the job or related to the job including, but not limited to, trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

7-5.4 Assignment of Rights to City

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

7-6 Load Limitations

The following is added to Section 7-1.02, "Load Limitations," of the Standard Specifications:

Truck Route Permits are required for all trucks over 3 tons that enter the City of Menlo Park. Additional information, including permit requirements, can be found on the City's website at:

<https://menlopark.gov/Government/Departments/Public-Works/Transportation-Division/Truck-route-permits>

The Contractor's attention is directed to the Figure 7-5.1, "Truck Routes Map" showing truck routes in the City of Menlo Park per Ordinance No. 718, as well as the following notice:

NOTICE

CITY OF MENLO PARK TRUCK ROUTES

Menlo Park Municipal Code Section (11.48.035) establishes Willow Road from Bayshore (Highway 101) Freeway to, and including, Middlefield Road as a "special limited truck route." Trucks with a "maximum gross weight," including load, **EXCEEDING THREE (3) TONS**, are excluded from this (limited) truck route. Trucks entering the City of Menlo Park for a destination in the vicinity of Willow Road or Middlefield Road or a truck on a trip originating within this area will be permitted.

Trucks exceeding three tons with a Downtown or other central Menlo Park destination must enter and exit such locations via El Camino Real (Highway 82) or other designated truck routes unless they have made a stop at a destination on Willow Road or Middlefield Road. **NO TRUCKS WITH A PALO ALTO DESTINATION ARE PERMITTED ON WILLOW ROAD.**

Questions regarding this notice should be directed to the City's Transportation Division, at (650) 330-6770, or to the Menlo Park Police Department at (650) 330-6300.

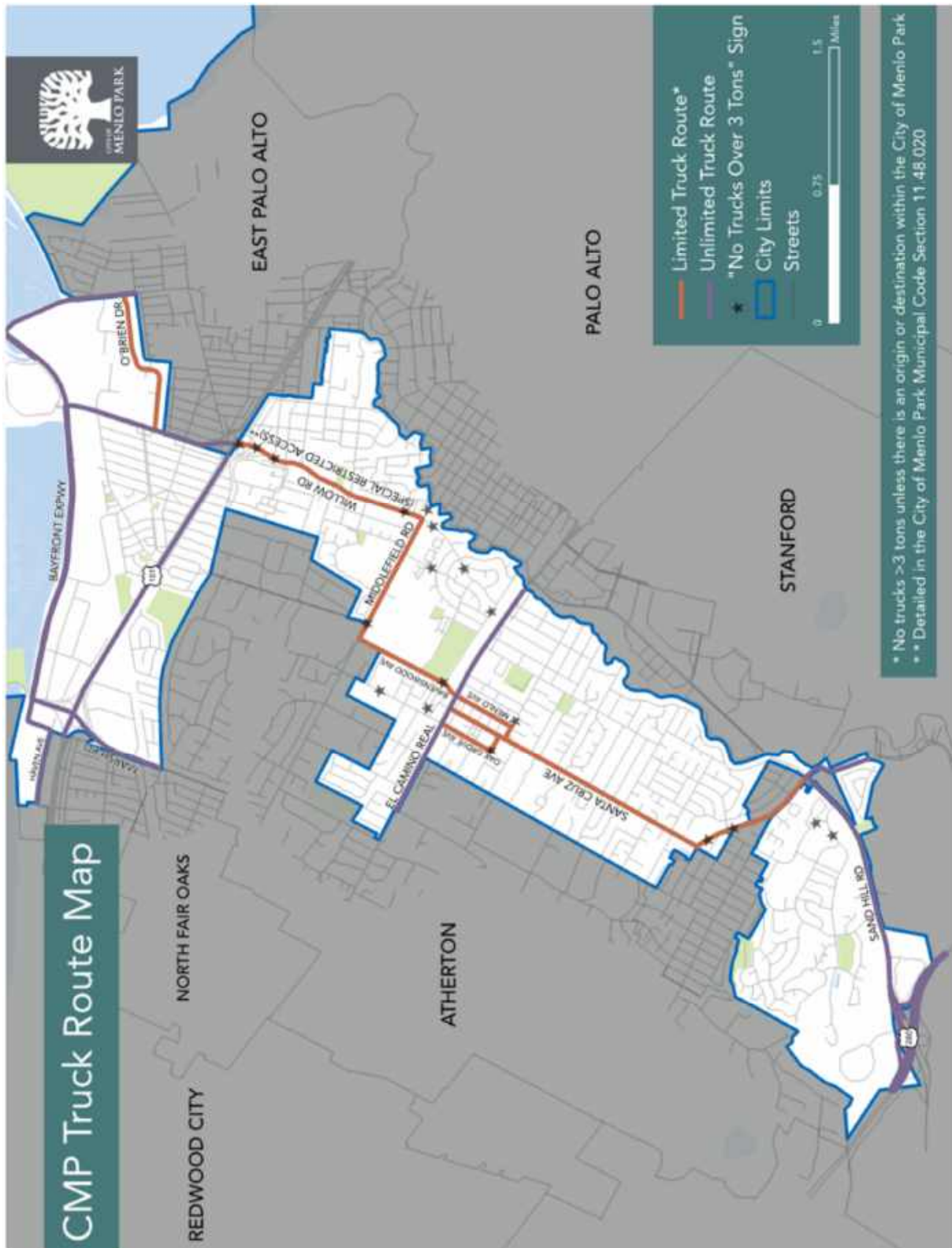


FIGURE 7-5.1 – TRUCK ROUTE MAP

7-7 Permits and Licenses

The following is added to Section 7-1.04 "Permits and Licenses" of the Standard Specifications:

Prior to commencement of work, the Contractor shall obtain and pay for all applicable permits from the City and Caltrans. The following permits are required:

1. **Business License (obtain from Finance Department)**
2. **Truck Route Permits (obtain from Transportation Division)**

A City of Menlo Park Business License is required of any person who transacts or conducts any business, trade, profession, calling or occupation in the City of Menlo Park. ***The Contractor shall submit to the Engineer a copy of his receipt or other evidence of having procured a current City of Menlo Park Business license.***

See the preceding section regarding the Truck Route Permits. A separate permit is required for each truck in excess of 3 Tons. When the work is to be done at multiple locations, attachments shall be issued for each permit indicating the entry/exit point and the work area for which it can be used.

Contractor shall obtain and pay for State and County permits, and permits from other jurisdictions that may be required for the project. Contractor shall pay fees associated with such permits.

The Contractor shall comply with all conditions set forth in these permits and agreements, and shall bear the full costs of all expenses incurred in such compliance.

Contractor represents and warrants to the City that they have all licenses, permits, qualifications and approvals of whatsoever nature, which are legally required for Contractor to practice their profession. Contractor represents and warrants to the City that Contractor shall, at his sole expense, keep in effect at all times during the term of this Agreement any licenses, permits, and approvals which are legally required for Contractor to perform the work required hereunder.

7-8 Safety and Health Provisions

The following is added to Section 7-1.06, "Safety and Health Provisions," of the Standard Specifications, prior to the last bulleted paragraph:

Contractor shall follow the safety practices and procedures contained in the State of California Department of Transportation Construction Manual.

Notwithstanding any provisions of the Standard Specifications and these Special Provisions, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property, during performance of the work. Construction review by the owner is not intended to include review of the adequacy of the Contractor's safety measures, in, on or near the scheduled construction areas. This requirement will apply continuously and will not be limited to normal working hours. Safety and sanitary provisions shall conform to applicable Federal, State, County, and Local Laws, Regulations, Ordinances, Standards and Codes. Where any of these are in conflict, the more stringent requirement shall be followed.

7-9 Public Convenience

The following is added to Section 7-1.08, "Public Convenience," of the Standard

Specifications.

Contractor shall not obstruct public pedestrian pathways with construction material or equipment.

The Contractor is directed to Section 12 of these Special Provisions for requirements pertaining to notifications to affected persons.

7-10 Public Safety

The following is added to Section 7-1.09, "Public Safety" of the Standard Specifications:

When surfaces have been moistened by rain or dew, the Contractor shall take additional precautions than might otherwise have been sufficient during dry conditions.

When reference is made to "...the free and safe passage of public traffic..." with respect to the storage of material or equipment or the placement of temporary facilities, it shall be understood that this applies to pedestrian and bicycle traffic as well as vehicular traffic and to pedestrian and bicycle facilities as well as roadways.

The Contractor shall correct any hazardous conditions reported by the City within two (2) hours of notification. If the Contractor fails to correct the hazardous condition within two (2) hours of notification, the City reserves the right to install or have installed the necessary lights, barricades, etc. The cost involved shall be deducted from any payment due to the Contractor.

7-11 Explosives

Section 7-1.10, "Use of Explosives," of the Standard Specifications is replaced with the following:

No explosives of any kind, other than powder-actuated tools properly used by persons certified to use them, are allowed to be employed without the specific, written permission of the Engineer.

7-12 Preservation of Property

The following is added to Section 7-1.11, "Preservation of Property," of the Standard Specifications:

No right-of-way monument may be disturbed without prior written consent of the Engineer. If permitted, a licensed surveyor, hired by the Contractor, shall take and record whatever measurements might be necessary to relocate it, and that information shall be given to the Engineer prior to disturbing the monument.

If any damage is done to the building, site, parking areas or other infrastructure in the project area, the Contractor shall be responsible for replacing the damaged item, regardless of the cause of the damage.

7-13 Indemnification and Insurance

The Contractor shall procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be considered as included in the prices for the various items of work and no additional compensation will be allowed therefore.

- A. **Minimum Scope of Insurance.** Coverage shall be at least as broad as:
1. Insurance Services Office form number GL 0002 (Ed. 1/73) covering Comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability; or Insurance Services Office Commercial General Liability coverage ("occurrence" form CG 0001).
 2. Insurance Services Office form number CA 0001 (Ed. 1/78) covering Automobile Liability, code 1 "any auto" and endorsement CA 0025.
 3. Workers' Compensation insurance as required by the Labor Code of the State of California and Employers Liability insurance.
- B. **Minimum Limits of Insurance.** Contractor shall maintain limits no less than:
1. Commercial General Liability: \$2,000,000 combined single limit, annual aggregate for bodily injury, personal injury and property damage; and with a minimum of \$1,000,000.00 per occurrence.
 2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage.
 3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and Employers Liability limits of \$1,000,000 per accident.
- C. **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials and employees; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- D. **Other Insurance Provisions.** The policies are to contain, or be endorsed to contain, the following provisions:
- E. General Liability and Automobile Liability Coverages.
- A. The City, its officers, officials, employees and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of the protection afforded to the City, its officers, officials, employees or volunteers.
 - B. The Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
 - C. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its officers, officials, employees or volunteers.
 - D. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- F. Workers' Compensation and Employers Liability Coverage.
The insurer shall agree to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the City.

G. All Coverage.

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

- E. **Acceptability of Insurers.** Insurance is to be placed with insurers with a Best's rating of no less than A:XII.
- F. **Verification of Coverage.** Contractor shall furnish City with certificates of insurance and with original endorsements effecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be received and approved by the City before commencing work. The City reserves the right to require complete, certified copies of all required insurance policies, at any time.
- G. **Subcontractors.** Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

7-14 Builders Risk Insurance

This Section on Builders Risk Insurance shall be applicable only to building construction projects.

Contractor will cause to be taken out and maintain in the name of the City and the Contractor until final completion and acceptance of the project, all builder's risk insurance including but not limited to coverage against loss of damage to the project by fire and lightning, extended coverage, vandalism, malicious mischief, flood, earthquake and collapse; said extended coverage shall cover loss or damage by explosion, windstorm, riot, aircraft, vehicle damage, smoke and other such hazards as are normally covered by such coverage. Such insurance (except the earthquake and flood coverage in the event that they are not fully or reasonably available) shall be in an amount equal to the replacement cost (without deduction for depreciation and subject to stipulated value in lieu of average clause) of all structures constituting any part of the work, excluding the cost of excavations, of grading and of filling of the land, and except that such insurance (except earthquake and flood insurance) may be subject to deductible clauses not to exceed \$10,000 for any one loss. Earthquake and flood insurance may be subject to deductible clauses not to exceed five percent (5%) of such replacement cost for any one loss. Such insurance will not cover loss or damage to the Contractor's equipment, scaffolding or other materials not to be consumed in the construction of the project.

The Contractor shall obtain from the insurer a waiver of subrogation endorsement for losses caused by fire or other perils to the extent by this insurance. Contractor shall pay any extra premium required therefore.

7-15 Failure to Maintain Insurance

During the term of this Agreement and until final completion and acceptance of work by the City, the Contractor shall maintain in full force and effect insurance coverage in the forms and amounts specified in the Contract Documents. If, at any time during the

performance of this Contract, Contractor fails to maintain any item of required insurance in full force and effect, Contractor shall immediately discontinue all work under the Contract and City will withhold all Contract Payments due or that become due until notice is received by City that such insurance has been restored in full force and effect and that the premiums therefore have been paid for a period satisfactory to the City.

7-16 Responsibility for Damage

Attention is directed to Section 7-1.15, "Relief from Maintenance and Responsibility," and 7-1.16, "Contractor's Responsibility for the Work and Materials," of the Standard Specifications regarding Contractor's responsibility for the work.

The City of Menlo Park and all officers and employees thereof connected with the work, including but not limited to the Engineer, shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; for any loss or damage to any of the materials or other things used or employed in performing the work; for injury to or death of any person, either work persons or public; or for damage to property from any cause which might have been prevented by the Contractor, or his workers, or anyone employed by Contractor.

It is the intent of the parties that the Contractor will indemnify and hold harmless the City, its officers and employees from any and all claims, suits or actions as set forth above, regardless of the existence or degree of fault or negligence on the part of the City, Contractor, subcontractor or employee of any of these, other than the active negligence of the City, its officers and employees.

7-17 Hold Harmless and Responsibility of Contractor

Contractor shall take all responsibility for the work, shall bear all losses and damages directly or indirectly resulting to him, to any subcontractor, to the City, to City officers and employees, or to parties designated by the City, on account of the performance or character of the work, unforeseen difficulties, accidents, occurrences or other causes predicated on active or passive negligence of the Contractor or of any subcontractor. The Contractor shall indemnify, defend and hold harmless the City, its officers, officials, directors, employees and agents from and against any or all loss, liability, expense, claim costs (including costs of defense), suits, and damages of every kind, nature and description directly or indirectly arising from the performance of the work. This paragraph shall not be construed to exempt the City, its employees and officers from its own fraud, willful injury or violation of law whether willful or negligent. By execution of this agreement, Contractor acknowledges and agrees that they have read and understand the provisions hereof and that this paragraph is a material element of consideration.

City's acceptance of the insurance documents does not relieve the Contractor or subcontractors from liability under this provision.

7-18 Acceptance of Contract

Section 7-1.17, "Acceptance of Contract," of the Standard Specifications is replaced with the following:

If landscaping and irrigation are part of the project, partial acceptance of the Work will be allowed upon completion of all Contract Work except for plant establishment work as described in Section 20-4.08, "Plant Establishment Work" of the Standard Specifications and as modified in the Special Provisions.

Section 8: Prosecution, and Progress of the Work

8-1 General

The Contractor shall conform to the provisions of Section 8, "Prosecution, and Progress of the Work," of the Standard Specifications and these Special Provisions.

8-2 Subcontracting

The second bulleted paragraph of Section 8-1.01, "Subcontracting," of the Standard Specifications is replaced with the following:

Any of the Contractor's subcontractors, or subcontractors of the Contractor's subcontractors, shall be directed by the Contractor, and the Contractor shall be held responsible for their work as if it had been performed by his own forces. Suppliers and vendors of materials or components of the work shall likewise be directed by the Contractor, and the Contractor shall be held responsible for the quality and suitability of those materials and components.

8-3 Preconstruction Conference

Prior to the issuance of the Notice to Proceed, a pre-construction conference will be held at the Public Works Department, or virtually, between the City and the Contractor. The City will determine the exact location of the meeting and will provide the information with at least five (5) working days advance notification. The purpose of this meeting shall be to discuss the scope of work, the project Plans and Specifications, existing conditions, materials to be ordered, equipment to be used, schedule and form, and all matters pertaining to the prosecution and satisfactory completion of the project. The Contractor's representatives at this conference shall include the field superintendent, supervisors, and major subcontractors.

8-4 Commencement Of Work

The first bulleted paragraph of Section 8-1.03, "Beginning of Work" of the Standard Specifications is replaced with the following:

The Contractor shall not begin work until the Notice to Proceed is issued by the City. The Contractor shall begin work within five (5) working days from the date of issuance of the Notice to Proceed and shall diligently prosecute the same to completion before the expiration of the time stated in the "Proposal To The City Council". The City shall begin charging working days on the fifth day following the date of issuance of the Notice to Proceed.

At least 48-hours prior to commencement of work the Contractor shall notify the following agencies:

A. City of Menlo Park Maintenance Division	650-330-6780
B. City of Menlo Park Engineering Division	650-330-6740
C. City of Menlo Park Transportation Division	650-330-6770
D. City of Menlo Park Police Department	650-330-6300
E. Menlo Park Fire District	650-688-8400

8-5 Progress Schedule

8-5.1 Overall Schedule

At the preconstruction conference, the Contractor shall submit a CPM baseline

schedule for review and approval. The schedule shall represent a practical plan to complete the work within the contract time. The schedule shall show the starting and completion dates for all major items or phases of the work. In preparing the schedule, the Contractor shall review and coordinate the time schedule with other contractors for the work to be completed by utility companies. Progress schedules shall reflect the utility companies' activities.

A schedule showing the work completed in less than the contract time, which is found to be practical by the Engineer, shall be considered to have float. The float is the time between the scheduled completion of the work and the contract completion date. Float is not for the benefit of either the Engineer or the Contractor. It is a resource to both parties.

A schedule found to be impractical for the preceding reason or any other reason shall be revised by the Contractor and resubmitted at no extra cost to the City.

Each schedule shall show:

1. Planned and actual start and completion dates of each work activity, including applicable:
 - A. Submittal development
 - B. Submittal review and acceptance
 - C. Material procurement
 - D. Contract milestones and constraints
 - E. Interfaces with outside entities
 - F. Test periods
 - G. Traffic control staging
2. Proposed order of work activities to prosecute the work
3. Logical links between the time-scaled work activities
4. All controlling activities
5. Legible description of each activity
6. At least one (1) predecessor and one (1) successor to each activity except for project start and project end milestones
7. Duration of at least one (1) working day for each activity
8. Start milestone date as the Contract approval date

8-5.2 Updates

Contractor shall submit a monthly updated schedule that includes the status of work completed to date and the work yet to be performed as planned.

If any proposed change in planned work would alter the critical path or extend the scheduled completion date, Contractor shall submit a revised schedule for review and approval in advance of beginning revised operation.

8-5.3 Regular Look-Ahead Schedules

In order to be able to coordinate other activities or notifications of affected neighborhoods, the **Contractor shall provide weekly up-to-date schedule** of the work activities to take place in the upcoming two-week time period.

8-6 Temporary Suspension of Work

The following is added to Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications:

The Engineer may temporarily suspend the work, or any portion of the work, if the Engineer determines that it imposes undue hardship on the affected residents or businesses. Such a temporary suspension, to allow for accommodations to be made to somewhat mitigate the hardship, shall be considered to be of the same nature as the reasons given in the first paragraph of Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications, and shall be treated accordingly. The Contractor shall not be entitled to compensation for the inconvenience of having to move his operations to a different portion of the project, nor for the delay unless it is found to be unreasonable as defined in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications.

8-7 Time of Completion

The following paragraphs are added to Section 8-1.06, "Time of Completion," of the Standard Specifications.

The following are the designated City holidays:

1. January 1 (New Year's Day)
2. The third Monday in January (Martin Luther King's Birthday)
3. The third Monday in February (Washington's Birthday)
4. The last Monday in May (Memorial Day)
5. July 4 (Independence Day)
6. The first Monday in September (Labor Day)
7. November 11 (Veterans' Day)
8. The fourth Thursday in November (Thanksgiving Day)
9. The day after Thanksgiving Day
10. December 24
11. December 25 (Christmas Day)

When a designated holiday falls on a Sunday, the following Monday shall be a designated holiday. When Christmas Day falls on a Sunday or Monday the preceding Friday shall be a holiday.

Rain days

Schedules must represent a practical plan to complete the Work within the Contract Time, which includes factoring time for reasonably foreseeable Weather Delay Days. Based on historic rainfall records for the City, the Contractor's schedule should assume the following number of Weather Delay Days for each month:*

Month	Number Normal Weather Delay Days
January	7
February	7
March	6
April	3
May	2
June	0
July	0

August	0
September	0
October	2
November	4
December	7

*Weather Delay Days which do not occur during a given month based on the number of days allocated for that month (above) do not carry over to another month.

8-8 Liquidated Damages

The following is added to Section 8-1.07, "Liquidated Damages," of the Standard Specifications:

The Contractor shall pay a daily rate of **one thousand dollars (\$1,000)** in liquidated damages for each calendar day exceeding the project's contracted working days as identified in the "Notice to Contractors Inviting Bids" section herein.

Liquidated damages will apply for any bid item (or portion of work in the contract) that is not finished within the project's contracted working days until such time said work is complete. At the Engineer's discretion, the City may calculate and enforce liquidated damages as a deduction in payment to the contractor on applicable progress payments.

8-9 Termination of Control

Section 8-1.08, "Termination of Control," of the Standard Specifications is replaced with the following:

- Failure to supply an adequate working force, or material of proper quality, or failure to pay subcontractors as required by law, or in any other respect to prosecute the work with the diligence and force specified by the Contract, is grounds for termination of the Contractor's control over the work and for taking over the work by the City.
- If the Contractor's control of the work is terminated or the Contractor abandons the work and the Contract Work is completed by the City, any dispute concerning the amount to be paid by the City to the Contractor or the Contractor's surety shall be subject to arbitration in conformance with the provisions in Section 9-1.10, "Arbitration" of the Standard Specifications. The surety shall be bound by the arbitration award and is entitled to participate in the arbitration proceedings.
- The City, at its option, may complete the work by any means or may leave any portion of the work unfinished.

8-10 Utility and Non-Highway Facilities

The following is added to Section 8-1.10, "Utility and Non-Highway Facilities," of the Standard Specifications:

8-10.1 Utility Company Contacts

The Contractor shall notify the following utility companies at least 48-hours prior to intentionally disturbing their facilities or immediately upon accidentally damaging their facilities:

- | | |
|-------------------------------|--------------|
| A. Pacific Gas & Electric Co. | 800-743-5000 |
| B. AT&T | 408-493-7134 |
| C. California Water Service | 650-367-6800 |

D. West Bay Sanitary District	650-321-0384
E. City of Menlo Park/Maintenance Division	650330-6780
F. FIBER OPTICS:	
1. Cable-Tech	408-437-1213
2. Qwest	303-291-1400
3. Brooks Fiber	209-943-3661
4. Cable Co-op	650-856-8181

8-10.2 Locating Underground Utilities:

At least two working days, and no more than fourteen calendar days, prior to any disturbance of the ground or pavements, the Contractor shall notify Underground Service Alert (USA North) at 800-227-2600, and shall file a service request. No digging shall be allowed until all operators of subsurface utilities have responded. If a utility operator has failed to respond by the intended excavation date on the USA North ticket, the Contractor must pursue the follow-up procedures outlined by USA North. The Contractor shall be entirely responsible for any damage caused to subsurface utilities if the procedure prescribed by USA North was not followed, or if the markings left by the operators of the utilities were not respected. The USA North service request number shall be provided to the Engineer.

The contractor shall, furthermore, pothole all existing utility mains overlapping any asphalt resurfacing or reconstruction work per the Plans or specifications. Such areas include, but are not limited to, water, storm, sewer, and dry utilities mains. Utility alignments and depths resulting from the USA and potholing shall be conveyed to the Engineer prior to commencement of work. Any anticipated conflicts between the resurfacing work and utility mains shall be communicated to the Engineer for direction prior to construction.

While the best efforts will be made, by the Project Designers and by the operators of underground utilities, to identify the correct locations of buried facilities, the Contractor bears the final responsibility for avoiding such facilities. If, during construction, any indication of possible unmarked utilities is observed, the Contractor shall immediately stop working and attempt to resolve the question by careful manual probing and digging.

The Contractor shall notify the Engineer immediately upon discovery of any unmarked facilities

8-11 Termination of Contract

The following is added to the first paragraph of Section 8-1.11, "Termination of Contract," of the Standard Specifications:

The City may, at its discretion, terminate the Contract for environmental considerations.

Section 9: Measurement and Payment

9-1 Measurement of Quantities

The following paragraph in Section 9-1.01, "Measurement of Quantities," of the Standard Specifications is revised to read:

- "When work is paid for by the weight of material delivered, the operator of each vehicle weighed shall obtain a weight or load slip from the weigher and deliver that slip to the Engineer at the point of delivery of the material."

9-2 Notice Of Potential Claim

The following is added after the third bulleted paragraph of Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications:

Email correspondence between the Contractor and the Engineer shall not substitute for the signed written initial notice of potential claim described herein.

9-4 Stop Notices

The second sentence of Section 9-1.05, "Stop Notices," of the Standard Specifications is replaced with the following:

The Engineer may, at any time that the Engineer determines necessary, direct in writing that the Contractor cease operations, and the Contractor shall immediately comply as directed. It shall be considered a Temporary Suspension of Work, as described in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications, unless the Engineer stipulates that it is a Termination of Contract as described in Section 8-1.08, "Termination of Control," of the Standard Specifications.

9-5 Partial Payments

Section 9-1.06, "Partial Payments," of the Standard Specifications is ***replaced entirely*** with the following:

9-5.1 Application For Payment

The Contractor may periodically, but no more than once per calendar month, submit an invoice for the Engineer's review. The invoice shall reflect all work done and materials furnished within the previous calendar month. Only undisputed work that is properly submitted, per to these specifications, will be considered valid for payment. Any work which is invoiced after thirty (30) calendar days from its completion shall be deemed late and payment for such work, if made, shall be at the discretion of the Engineer.

The application must itemize the work according to the Pay Item Price Schedule. It must show the original quantities for each item and the present totals as modified by all currently approved change orders; it must be stated on the application which change orders are included. It must show the amount of each item that was covered through and including the previous application, the amount of each item performed or provided during the period of the current application, and the cumulative total for each item. The amounts must be given both in dollar figures and in percentages of the present totals that include all approved change orders. The amounts shall be the full values of each item, without retention amounts deducted.

Materials or components delivered to the site but not yet installed shall not be paid for unless the storage is under the direct control of the City.

Work done and materials furnished on a force account basis must be clearly itemized separately from the regular work of the Contract, and shall not be paid for unless sufficient documentation is provided as described per Section 4 of these specifications.

The total amount of the application shall be the sum of the amounts of each of the price items performed or provided during the application period, plus the total of any force account work, not reduced by retention.

Within seven (7) days of City's receipt, if City determines the progress payment request is not proper, City shall return it to Contractor with a writing explaining the reasons it is not proper. If a progress payment request is properly submitted and undisputed, City shall make payment within thirty (30) days of receipt. If City fails to make payment of an undisputed, properly submitted payment request within thirty (30) days of receipt, City shall pay interest pursuant to California Public Contract Code Section 20104.50 at the rate set forth in California Code of Civil Procedure Section 685.010(a).

The application shall tabulate the previous cumulative total, the current application amount, and the new cumulative total, all without reduction by retention. If the Engineer does not agree with the Contractor's estimates of work completed, the Engineer may reject the application and require that the disputed amounts be adjusted. No payment to the Contractor shall be construed as an acceptance of any defective work or improper materials.

9-5.2 Retained Amounts

Once the Engineer has checked and verified the accuracy of each payment application, the Engineer shall reduce the application amount by five percent (5%), and the balance shall be authorized by the City Engineer to be paid to the Contractor. The reduction shall be retained by the City until the work is complete and accepted by the Public Works Director and the Contractor has provided the required Maintenance Bond.

In lieu of the City simply retaining portions of each application amount, the Contractor can request, and the Engineer may agree to, a substitution of securities or payment into an escrow account, as outlined in Section 9-1.065, "Payment of Withheld Funds" of the Standard Specifications.

9-6 Release of Retention

Section 9-1.07, "Payment After Acceptance" of the Standard Specifications is replaced entirely with the following:

Upon completion of the Contract Work, including all Extra Work directed by the Engineer to be done, the Contractor shall submit a final application for payment. This application shall show the final quantities in each Price Item. If any of these is different from sum of the original amount and all revisions due to approved change orders, the Contractor shall submit a written explanation, including detailed documentation of all costs or quantities that make up the difference.

If the Engineer does not agree with the Contractor's final application for payment, the Engineer will agree to meet with the Contractor to discuss and examine the areas of disagreement. Following that meeting, the Engineer shall issue a final determination of the amount due to the Contractor, and that determination shall be conveyed to the Contractor, the Escrow Agent (if any), and the Public Works Director.

A lien period of 35 calendar days shall begin from the date City Engineer accepts the project. Final payment of amounts deducted and placed in an escrow account or retained from the final Contract amount shall be paid to the Contractor at the end of this lien period. Exception shall be those amounts required by law to be withheld by properly executed and filed notices to stop payment, or as authorized by the Contract to be further retained.

9-7 Final Payment

Section 9-1.09, "Clerical Errors," of the Standard Specifications is entirely replaced with the following:

Final payment shall not be made to the Contractor until 35 calendar days after the Public Works Director has accepted the work.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City, other than those arising from any of the following: (1) unsettled liens, (2) faulty work appearing within twelve (12) months after Substantial Completion, (3) requirements of the Standard Specifications, or (4) manufacturer's guarantees. It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

9-8 Measurement and Payment

City will not pay for Contractor's loss, damage, repair, or extra costs of whatever character arising from or relating to the work that is a direct or indirect result of Contractor's choice of construction methods, materials, equipment, or manpower, unless specifically mandated by the these project specifications.

All work shall be deemed considered as included in the prices paid for the various items of work and no additional compensation shall be allowed therefor, unless work is specified as change order work.

Payment is:

1. Full compensation for all work involved in each bid item shown on the Bid Item Price Schedule by the unit of measure shown for that bid item
2. For the price bid for each bid item shown on the Bid Item Price Schedule or as changed by change order with a specified price adjustment
3. Inclusive of costs for strictly conforming with the required State and/or County safety compliance guidelines during the COVID-19 pandemic period in conjunction with the requirements under these specifications. During the COVID-19 pandemic construction requirements, the Contractor shall strictly conform under OSHA applicable guidelines. The Contractor shall pursue the construction work under the supervision of an OSHA certified staff member to oversee and implement mandated guideline requirements. Consider that the construction protocol requirements due to the COVID-19 pandemic may be adjusted and/or lifted when and as necessary as the State/County enacts new guidelines.

BID ITEM DESCRIPTIONS

The following bid items are included in the project. Note that the term **Contract Documents**, wherever used in this document (including this section), shall refer to all provisions within the General / Special Provisions, standard specifications, technical specifications (Appendix D), building permit, Project Plans (Appendix C), and other appendices as applicable to the referenced bid item or scope of work pertaining to its usage. No separate measurement and payment shall be made for adhering Sections 1 to 10 of these contract specifications. Adherence to the general provisions described in Sections 1 to 10 shall be considered incidental to applicable bid items in the Contractor's bid and no additional compensation shall be allowed therefor.

The following bid items shall cover the entire scope of work for the project as described in the Contract Documents. The Contractor shall determine and include in its pricing, all materials, labor, tools, equipment, and incidentals as required to complete each bid item, in full, specified below. The bid item descriptions below are intended to cover any, and all work depicted in the Contract Documents and no additional compensation shall be allowed therefor. Not all elements of every part of the Work are explicitly listed below. It is the intention of the City, and a provision of this contract, that any all of the work depicted shall be included in the Contractor's bid price for the work. No adjustments will be made to unit price and no change order shall be validated by the City for work that is depicted in the contract documents but is not specifically described or itemized below. Such items shall be included in the contractor's schedule of values and the contractor is free to regroup like items of work described herein as part of bid items most applicable to said work.

Bid Item 1 – Mobilization and Demobilization

The Contract lump sum (LS) price paid for Mobilization & Demobilization includes full compensation for furnishing all labor, materials, tools, equipment, insurance, bonding, permits, and incidentals; for performing all the work involved in Mobilization and Demobilization as specified in these Contract Documents including, but not limited to, the Plans and Section 11 of the Special Provisions, and no additional compensation shall be allowed. No additional compensation will be made for multiple mobilizations or demobilizations, extended project duration, suspension of work, or changes to the schedule as required by the building permit or City Engineer in the interest of minimalizing impact to site operations.

Bid Item 2 - Demolition and Equipment Removal

Work includes the removal and disposal of existing gas fired HVAC equipment, air handlers, condensers, blowers, thermostats, filters, fans, ducting and accessories, capping existing gas supply lines, removal and disposal of dishwashers and stoves, lighting fixtures or bulbs, drywall and casework, and all associated items as outlined in these project documents, completely in accordance with the drawings. Haul away all removed equipment, debris, and dispose of in accordance with local regulations. Prior to disconnection or removal of any HVAC equipment, recover all refrigerant in accordance with EPA Section 608 and all applicable laws. Venting refrigerant to atmosphere is prohibited.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Demolition & Equipment Removal, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals

and for doing all the work involved in the removal and disposal of existing equipment, as described in these Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 3 - Ductwork (N), Ductwork Modifications, & Ductwork Insulation.

Work includes furnishing and installing new ductwork and accessories, modifications to existing ductwork and furnishing and installing new insulation for all ductwork, ducting and accessories, and all associated items as outlined in these Contract Documents, completely in accordance with the drawings and Building Code. Haul away all removed equipment, debris, and dispose of in accordance with local regulations.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Ductwork (N), Ductwork Modifications, & Ductwork Insulation, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the installation of new ductwork and accessories, modifications to existing ductwork, and furnishing and installing new insulation, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 4 - Admin Ceiling - Modify & Repair.

Work includes temporary modification of the Administration Building suspended ceiling to access the existing HVAC equipment, salvaging ceiling materials, and, upon completion of all HVAC system work, repair the ceiling using salvaged and new materials as required to restore the ceiling system. Work includes hauling away all removed materials, debris, and disposing of in accordance with local regulations.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Admin Ceiling - Modify & Repair, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in modifying and restoring the Administration Building ceiling, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 5 - Classroom Access Hatch – Modify as Necessary, New Casework & Doors.

Work includes modifications to the Classroom HVAC access hatches to access the existing HVAC equipment and to install the new HVAC system, including any framing modifications, drywall, patch work, casework and new doors, paint and other materials required to finish the new access hatches to match the existing wall and casework finishes. Work includes haul away of all removed materials, debris, and disposal of in accordance with local regulations.

MEASUREMENT AND PAYMENT

The Contract unit price per each (EA) paid for Classroom Access Hatch – Modify as Necessary, New Casework & Doors, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in modifying the classroom access hatches, including any framing modifications, drywall,

patch work, casework and new doors, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 6 – Classroom HVAC System, Pressure Relief Valves, Thermostat & Accessories - Furnish & Install

Work includes furnishing and installing the new Classroom HVAC systems with economizers, exhaust vents, pressure relief valves, thermostats, controls and all accessories as outlined in these project documents, completely in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract unit price per each (EA) paid for Classroom HVAC System, Pressure Relief Valves, Thermostat & Accessories – Furnish & Install, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing the new classroom HVAC systems, complete in place, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 7 – Admin HVAC System, Pressure Relief Valves, Thermostat & Accessories - Furnish & Install

Work includes furnishing and installing the new administrative building HVAC systems with economizer, exhaust vents, pressure relief valves, thermostats, controls and all accessories as outlined in these project documents, completely in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Admin HVAC System, Pressure Relief Valves, Thermostat & Accessories, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing the new administration building HVAC systems, complete in place, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 8 – (N) Roof Penetrations, Patching, Repairing, Flashing & Waterproofing

Work includes modifying existing roof penetrations and/or installing new roof penetrations as required, for the installation of new HVAC systems and accessories, including furnishing and installing all materials, flashing and waterproofing to ensure all new penetrations for each building are watertight and existing modified or sealed penetrations are watertight and repaired with appropriate roofing materials.

MEASUREMENT AND PAYMENT

The Contract unit price per each (EA) for (N) Roof Penetrations, Patching, Repairing, Flashing & Waterproofing, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in creating new roof penetrations, modifying existing roof penetrations, patching and repairing roofing, flashing and waterproofing, for each building, complete in place, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 9 – HVAC Remote Control Systems & BMS Integration

Work includes furnishing and installing HVAC remote control systems, air monitoring sensors, and integration with the existing City of Menlo Park BMS Systems, for remote monitoring and control of site air handling and monitoring equipment.

MEASUREMENT AND PAYMENT**The Contract lump sum price paid for HVAC Remote Control Systems & BMS**

Integration, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing remote control systems, air monitoring sensors and integration with the City of Menlo Park BMS Systems, complete in place, as described in the Contract Document, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 10 – Testing and Balancing

Work includes testing and balancing air handling and HVAC equipment and furnishing all required reports to the City and/or governing agency overseeing project HVAC components.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Testing and Balancing, includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in testing and balancing all air handling and HVAC equipment, and providing all required reports as, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 11 – Electrical Work, Power Connections & Low Voltage Wiring (0-10V)

Work includes all electrical work, including modifying existing power connections, installing new power connections and installing new low voltage wiring, and other associated items as outlined in these project documents, completely in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Electrical Work, Power Connections & Low Voltage Wiring (0-10V) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing new power connections, modifying existing power connections and installing new low voltage wiring, as described in the Contract Documents, as directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 12 – Mini Split at IT Electrical room, Including Power Supply, Furnish & Install

Work includes furnishing and installing a new mini split system in the IT Electrical Room, including providing new power supply, condensate drain, controls and all accessories as outlined in these project documents, completely in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Mini Split at IT Electrical room, Including Power Supply, Furnish & Install, includes full compensation for furnishing all labor,

materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing the new mini split systems at the IT Electrical room, complete in place, as described in the Contract Documents, and directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 13 – New LED Lighting and Fixtures for Classroom and MPR – Furnish & Install

Work includes all furnishing and installing new LED lighting and pendant fixtures in the classrooms and administration building, in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for New LED Lighting and Fixtures for Classroom and MPR – Furnish & Install includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing new LED lighting and pendant fixtures in the classrooms and administration building, modifying existing lighting connections as required for new fixtures, as described in the Contract Documents and directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 14 – Interior Lighting Controls – Furnish & Install, Modify

Work includes all furnishing and installing interior lighting controls throughout the facility in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Interior Lighting Controls – Furnish & Install, Modify includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing LED Type B/C Retrofit kits in the in miscellaneous interior areas throughout the facility, modifying existing lighting connections as required for the retrofit kits, as described in the Contract Documents, and directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 15 – Exterior Wall and Pole Mounted Fixtures

Work includes all furnishing and installing LED retrofit lighting kits in the exterior wall and pole mounted fixtures, in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract lump sum price paid for Exterior Wall and Pole Mounted Fixtures includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing LED Retrofit kits in the in exterior wall and pole mounted lighting fixtures around the exterior of the facility, modifying existing lighting connections as required to install the LED lights, as described in the Contract Documents and directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 16 – Electric Induction Ranges – Furnish & Install

Work includes all furnishing and installing new electric induction ranges, in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract unit price paid per each (EA) for Electric Induction Ranges – Furnish & Install includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing new electric inductions ranges, as described in the Contract Documents, and directed by the Engineer, and no additional compensation will be allowed therefor.

Bid Item 17 – Dishwashers – Furnish & Install

Work includes all furnishing and installing new dishwashers, in accordance with the drawings.

MEASUREMENT AND PAYMENT

The Contract unit price paid per each (EA) for Dishwashers – Furnish & Install includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and installing new dishwashers, as described in the Contract Documents, and directed by the Engineer, and no additional compensation will be allowed therefor.

Special Provisions

Section 10: Dust Control

10-1 General

Dust Control shall conform to the provisions of Section 10, "Dust Control," of the Standard Specifications and these Special Provisions.

The rate and number of applications shall be at the initiative of the Contractor, as necessary to prevent the release of dust in the atmosphere.

The Contractor may not use the water service of any particular address included in the construction location, unless approved in advance in writing by the Engineer. The Engineer will not consider any such request unless it is accompanied by written permission signed by the owner of the property whose service is to be used. Signatures of tenants will not be considered.

If the Contractor elects to use water from a fire hydrant, they must obtain a hydrant meter from the City of Menlo Park Water Department or California Water and pay the appropriate fees.

Care must be taken not to cause dust, soil materials, or debris to enter the City's storm drainage system.

The fine for failure to comply with the above requirement will be \$100.00 per occurrence.

Prior to using a dust palliative, the manufacturer's documentation of composition and MSDS must be approved by the Engineer.

Take Notice: The State of California has lifted the drought restrictions imposed in previous years throughout the state, excepting specifically designated Counties, consequently the State Water Resources Control Board has adopted through Executive Order B-40-17 that builds on actions taken in Executive Order B-37-16, remaining in effect, to continue making water conservation a way of life in California. The State Water Resources Control Board currently maintains urban water use reporting requirements and prohibitions on wasteful practices such as watering during or after rainfall, hosing off sidewalks and irrigating ornamental turf on public street medians.

Consequently, The City strongly recommends the Contractor to use recycled water instead of potable water as a dust palliative whenever needed.

Section 11: Mobilization

11-1 General

Mobilization shall conform to the provisions of Section 11, " Mobilization," of the Standard Specifications and these Special Provisions.

The following paragraphs are added to Section 11, "Mobilization" of the Standard Specifications.

11-2 Construction Sequencing Plan

The contractor is alerted to Section 5 of these specifications for the Construction Sequencing Plan which must be submitted and approved by the City prior to mobilization.

11-3 Conveyance and Storage

Except as otherwise specified, the Contractor shall furnish all necessary means of conveyance for the transfer of material to its proper place at work, storage of materials for work, and disposal of refuse and unused materials, and shall pay all costs of rentals or leases thereby made necessary.

As required, adequate precautions shall be taken by the Contractor to protect and preserve stored items, including providing fencing, barricades, reflective tapes, etc. The Contractor is allowed to use the designated area at the project site for staging equipment, storing materials or establishment of offices, buildings or other facilities necessary for work on the project, with prior written authorization of the Engineer. No materials may be stored within the Right of Way or parking area adjacent to the Project.

No trucks, trailers or equipment licensed for street driving shall be left parked overnight within the Right of Way. Non-licensed equipment remaining in the ROW shall be neatly stored at the end of each working day in such a fashion as to not create a hazard.

11-4 Temporary Facilities

Temporary structures and facilities, necessary for the execution of the Work or for the convenience of the Contractor, shall be subject to the following:

- A. Storage areas for materials shall be secured to exclude the public, and shall be protected against contamination of groundwater or surface run-off. Sufficient space shall be provided to allow unloading or loading of materials or equipment in such a manner as to avoid blocking sidewalks, driveways or adjacent streets.
- B. Sanitary toilets shall be provided for all persons working on the project. They must be cleaned at least weekly and shall be protected against contamination of groundwater or surface run-off. Sanitary toilets shall not be located close to decks, patios, or windows of adjacent private properties; obstruct private property access; or prevent City services from being performing for private properties. Sanitary toilets shall be removed from the job-site when remaining construction activities can be performed within two (2) hours per day. Contractor shall relocate sanitary toilets within thirty (30) minutes of receiving a notice from the Engineer.
- C. Field offices, whether at the option of the Contractor or as called-for in the Contract Documents, shall be located so as to not impede pedestrian or vehicular traffic or impair safe sight-distances, for traffic in the right-of-way or for traffic entering or leaving a privately-owned site. They shall not be located where they would cast shadows onto structures, including decks and patios, on adjacent private property. If located in residential neighborhoods, they shall not produce noise, glare or odors

- above existing ambient levels.
- D. Lighting of temporary facilities for safety or security shall not shine directly, or indirectly off highly reflective surfaces, into adjacent residential properties.
- E. Upon completion of the project, the Contractor shall remove all temporary structures and facilities from the site and clean and restore the area.

11-5 Measurement and Payment

Refer to Section 9-8 of these specifications for payment and measurement terms pertaining to Mobilization and Demobilization.

Section 12: Construction Area Traffic Control

ONLY USED FOR WORK WITHIN THE PUBLIC RIGHT OF WAY ON-SITE SAFETY AND TRAFFIC CONTROL SHALL BE GOVERNED BY THE PROJECT'S CONSTRUCTION SEQUENCING PLAN

12-1 General

Traffic control shall conform to the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

The Contractor shall provide all required signs, barricades, arrow boards, lights, high-level flag trees and other traffic control devices to cause the least possible inconvenience to vehicle, bicycle, and pedestrian traffic in conformance with the principles set forth by the latest California Manual on Uniform Traffic Control Devices (MUTCD), Part 6, "Temporary Traffic Control."

The Contractor shall provide and maintain all traffic control and safety devices. The Contractor assumes sole and complete responsibility for the job site conditions including safety of all persons and property from start of construction until final acceptance of construction. This requirement shall apply twenty-four (24) hours/day and shall not be limited to normal work hours. Whenever, in the opinion of the Engineer, field conditions require additional or revised measures to safely control the movement of vehicles, bicycles, and pedestrians, the Contractor shall implement such measures. No additional compensation shall be paid unless it was impossible to have anticipated the circumstances requiring the change.

If work is allowed by the Engineer outside of normal working hours at the request of the Contractor, inspection service fees may be levied against the Contractor at a rate established within the City of Menlo Park Master Fee schedule, including travel time where applicable, with a minimum hourly charge of four (4) hours. The above charge may also be levied if inspection services become necessary to protect public safety or if unique circumstances require additional inspection to ensure the quality of work.

12-2 Traffic Control Plans

The purpose of a traffic control plan (TCP) is to allow the contractor to work within the public right of way efficiently and effectively while maintaining a safe, uniform flow of traffic. Where the work is within, or adjacent to, rights of way under other agencies (e.g. Caltrans, San Mateo County, etc.), it shall be subject to review and approval from these respective agencies and no additional compensation shall be allowed therefor. Where required, the City will procure any additional encroachment permits on behalf of the contractor from these agencies and coordination for said permits shall be excluded from the contractor's bid. However, it is the contractor's responsibility to abide by all conditions of the permit during construction.

Where required by the Engineer, the Traffic Control Plans shall be designed by a licensed professional engineer in the State of California. The Contractor shall submit Traffic Control Plan (TCP) has follows:

- **Non-Residential street**-All non-residential streets require site specific plans. Caltrans specifications may be used as a starting point, regarding the placement of cones, lane tapers, arrowboards, etc., but generic Caltrans standard layouts

will not be accepted for non-residential streets.

- **Residential street**-Caltrans standard layouts may be used on residential streets for work requiring shoulder closure and lane closures. Street closure requests will need to have site-specific plans.

Plans shall take into consideration all modes of transportation including vehicles, buses, bicycles and pedestrians. Sidewalk closure will only be allowed temporarily and must be open by the end of work hours. Temporary ramps must meet ADA requirements. Sidewalks closure will not be allowed for construction trailers.

12-2.1 General Requirements

1. Residents and businesses impacted by the contractor's work shall be allowed to access to their properties at all times, unless explicit authorization to the contrary is granted by the Engineer. Contractor shall provide any temporary backfill, plating, or other means of maintaining ingress and egress to private properties or businesses impacted by the work as part of their Traffic Control and no additional payment shall be allowed.
2. The Contractor shall conduct construction operations in such a manner as to minimize the hazard, inconvenience and disruption to the public.
3. Prior to implementation of any traffic diversion, the affected neighborhood shall be notified as described in Section 12 of these Special Provisions. This applies to staging of equipment and temporary storage of materials as well as to the work described in the Plans or Drawings and these Provisions.
4. Potential conflict with traffic flow or occupation use of State right-of-way must be coordinated by obtaining a right-of-way use permits with Caltrans at no additional cost to the City.

12-2.2 Coordination with Shuttle Routes

The contractor is responsible for coordinating its work with SamTrans and/or City shuttle routes to ensure minimal disturbance to operations. A map of the City's Shuttle System is linked below.

<https://menlopark.gov/files/sharedassets/public/v/1/public-works/documents/transportation/shuttles/2024-05-combined-shuttle-route-map.pdf>

The contractor shall contact the Transportation Department at **650-330-6708** at least one week prior to working any street in conflict with shuttle routes. The Engineer shall have final discretion on the sequencing and timing of work at these locations. These provisions will be encumbered under the bid item "Mobilization and Demobilization" per Section 11 of the Special Provisions and no additional compensation shall be allowed therefor.

12-3 Traffic Handling Equipment and Devices

12-3.1 General

The following is added to Section 12-3.01, "General," of the Standard Specifications: The term "hours of darkness" shall also include periods when visibility is significantly impaired by dense fog or heavy rain.

12-3.2 Barricades

The following is added to Section 12-3.02, "Barricades," of the Standard Specifications:

All barricades shall have functioning warning lights. Barricades shall be placed no more than twenty (20) feet apart, center to center, or closer together where necessary or where directed by the Engineer.

12-3.3 Flashing Arrow Signs

The following is added to Section 12-3.03, "Flashing Arrow Signs," of the Standard Specifications: Flashing arrow signs (24-hour operation) shall be required by the Engineer if deemed necessary for safe construction operations at busy streets.

12-4 Notification of Residents, Businesses, and School

The Contractor shall notify, in writing and hand deliver, each resident and business of the properties fronting and within 150 feet of the project affected by the work, **twice** prior to the start of construction of each street segment. The first notice shall be sent **two (2) weeks** prior to construction and the second notice shall be sent **72 hours** prior to construction. A draft of the notifications shall be submitted to the Engineer at least seven (7) working days prior to distribution for review and approval. Refer to Section 5 for additional information.

Notices shall include a telephone number at which the Contractor's representative may be contacted 24 hours a day for the duration of construction for problems or emergencies encountered by residents. Notices shall describe the work that will take place, the hours and approximate dates of work, and any restrictions that will be imposed. The Contractor shall take special care to deliver the appropriate notice to the correct location.

12-5 Measurement and Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work shall be considered as included in the prices paid for the applicable items involving Traffic Control, if any, and no additional compensation shall be allowed therefor.

Section 13: Waste Management

13-1 Construction Waste Management

The Contractor shall minimize the creation of construction and demolition waste on the job site. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized. Waste materials as shall be reused, salvaged, or recycled to the maximum extent practicable. Waste disposal in landfills shall be minimized.

13-1.1 Diversion Goal

One hundred percent (100%) of inert wastes, and at least fifty percent (50%) of the remaining construction and demolition debris shall be diverted from landfills.

Inert wastes, such as concrete, brick, rock, asphalt, and soil not intended for on-site use, shall be taken to a facility for reuse or recycling.

Other mixed construction & demolition (C&D) wastes shall be taken to a facility with a C&D sorting program, as listed in the Construction and Demolition Debris Recycling Guide referenced below, if additional recycling is needed in order to meet the requirements set forth in this Section. If debris box service is used, the debris boxes must be taken to a C&D sorting facility if materials are not separated on-site for recycling.

The Contractor has the option of separating on-site for recycling non-inert materials, such as cardboard, paper, wood, metals, green waste, new gypsum wallboard, tile, porcelain fixtures, and other easily recycled materials, and directing them to recycling facilities and taking the remaining mixed waste (but no more than 50% by weight or yardage) to a facility for disposal. If waste is taken for disposal, documentation must be provided to show that 50% of C&D wastes (in addition to 100% of inert wastes) have been diverted.

13-1.2 References and Resources

A Construction, Deconstruction, and Demolition Information Guide is available online at http://www.smcsustainability.org/download/waste-reduction/CD_2017-Web.pdf or contact the County of San Mateo Office of Sustainability's hotline at (888) 442-2666. Contractor shall complete the Waste Management Plan form included in **Appendix A** or available online at <http://www.smcsustainability.org/wp-content/uploads/Waste-Management-Plan.pdf>.

13-1.3 Waste Management Plan & Daily Transport Report

The Contractor shall submit a Waste Management Plan shall be submitted to the Engineer or his/her designee for approval within FIVE (5) WORKING DAYS after pre-construction conference. The Waste Management Plan shall include a description of how the Contractor will meet the requirements of this Contract and shall include a list of disposal and recycling facilities where waste materials will be taken (Blue Line, Zanker Road, Newby Island, etc., or any other local user of the waste materials), a description of what will be taken to each facility (inert wastes, metals, wood, glass, plastics, mixed waste, etc.), a description of the means of transportation of recyclable materials (whether materials will be site-separated and self hauled to designated centers, or whether mixed materials will be collected by a waste hauler and designated center, or whether mixed materials will be collected by a waste hauler and removed from the site),

an estimate of how often bins will need to be emptied, and an estimated amount (weight, yardage, etc.). Approval will be granted if the plan shows:

- One hundred percent (100%) of inert wastes being reused or recycled and at least fifty percent (50%) of C&D wastes being reused or recycled; or
- All waste that is not separated on-site for recycling is sent to a mixed C&D sorting facility for recycling.

13-1.4 Waste Management Plan Implementation

A. Plan Distribution:

The contractor shall provide copies of the approved Waste Management Plan to the project superintendent and each subcontractor.

B. Instruction:

The contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.

C. Meetings:

The contractor shall conduct monthly Construction Waste Management meetings or at least one meeting for projects with length of less than twenty (20) working days. Meetings shall include subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at regularly scheduled project meetings.

D. Separation Facilities:

The contractor shall designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials. Bins shall not be stored within the City Right of Way unless approved in writing in advance by the Engineer. All bins used shall be protected during non-working hours from off site contamination.

E. Materials Handling Procedures:

Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.

F. Hazardous Wastes:

Hazardous wastes shall be separated, stored, and disposed of according to local regulations. Unless specified in other sections, the City is not aware of any hazardous wastes within the project site. Contractor shall notify the Engineer if hazardous waste is encountered.

G. Reporting:

The Contractor shall complete Waste Management Daily Transport reports for submittal to the Engineer. Attention is directed to Appendix A of these Special Provisions for the necessary reporting forms.

As a condition of final approval and retention release, the Contractor shall submit documentation to the City which demonstrates compliance with the approved Waste Management Plan. **Projects that involve monthly progress payments shall also require monthly reporting on the Waste Management Plan.** Such reports shall be submitted prior to the monthly cutoff for progress payments and shall include, at a minimum, a summary of waste materials recycled, salvaged and disposed of for the Project. Documentation (receipts/scale tickets, waybills) showing the quantities and types of materials diverted and disposed shall be submitted with **Section Two: Final Report Approval (of the Waste Management Plan form) signed by both the Contractor and the Engineer.** A Notice of Completion will not be filed for the project

and retention released until all reports as required for the project are submitted and approved.

The summary and documentation shall contain the following information:

- For each material recycled and salvaged from the Project, include the amount (in cubic yards or tons, or in the case of salvaged items, state quantities by number, type and size of items) and the destination (i.e., recycling facility, used building materials yard or other local users)
- For each material landfilled or incinerated from the Project, include the amount (in cubic yards or tons) of material and the identity of the landfill, incinerator and/or transfer station.
- Documentation shall consist of photocopies of receipts and weight tags or other records of measurement or equivalent documentation from recycling companies, deconstruction contractors, and landfill and disposal companies. The contractor shall sign the completed Waste Management Plan to certify its accuracy prior to submitting it to the Engineer for final payment.

13-2 Site Clean-Up

Upon completion of work in a particular area, the Contractor shall clean the project location and vicinity and return them to their original condition within two (2) working days. Failure by the Contractor to clean and restore the areas shall be deemed as non-compliance with this section and liquidated damages per Section 8 herein shall be assessed for each and every calendar day the areas remain unclean or un-restored.

13-3 Measurement and Payment

Full compensation for performing all the work and incidentals necessary to complete the work related to construction Waste Management, including site clean-up and off-haul to a designated disposal facility as indicated in the Standard Specifications and these contract documents, including but not limited to Section 13 of the Special Provisions shall be paid per **Bid Item 3 - Demolition and Equipment Removal** and no additional compensation shall be allowed therefor.

Section 14: Water Pollution Control

14-1 General

The Contractor shall protect storm drains, streams, waterways, and other bodies of water from pollution with fuels, oils, bitumens, calcium chloride and other harmful materials during the entirety of construction. The Contractor shall conduct operations to avoid, or minimize, muddying and silting streams, waterways, and other bodies of water. Care shall also be taken to preserve roadside vegetation beyond the limits of construction.

Section 13, "Water Pollution Control," of the 2025 California Department of Transportation Standard Specifications shall also apply, except as noted, in addition to the provisions below. The Contractor is alerted to Section 5 of these specifications in the event of conflict between these two documents.

14-1.1 Requirements

A. All projects:

The Contractor shall adhere to the provisions in this section during the entire course of construction and protect all existing storm drains, vegetation, or bodies of water from contamination by construction related activity, equipment, or materials. The Contractor shall assign a Water Pollution Control (WPC) manager to monitor and ensure compliance with the identified requirements in this section and duties as defined in Section 13-1.01D(4), "Water Pollution Control Manager," of the Standard Specifications, except as noted. Refer to the sections below for project requirements relative to area of disturbance.

B. Projects disturbing less than one (1) acre of soil:

The Contractor must follow the Project Plans (including the Erosion Control Plans and the [Best Management Practices](#) sheet incorporated therein) and other related sections in these specifications (including any references to the Caltrans Standard Plans or Specifications). These documents will guide implementation of water / stormwater pollution control from construction activity. Refer to the Appendices under these contract documents for additional information.

C. Projects disturbing more than one (1) acre of soil:

- In addition to the provisions of 14-1.1A, the Contractor shall comply with National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order WQ 2022-0057-DWQ, hereafter referred to as the Construction General Permit.
- The Contractor shall also develop and implement a Stormwater Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer (QSD), along with BMP implementation plans, inspection reports, monitoring data, REAPs (if applicable), and other documents required by the Construction General Permit in accordance with State requirements.
- The Contractor shall retain a Qualified SWPPP Practitioner (QSP) to ensure compliance with the SWPPP and other related documents pursuant to City and State requirements. The QSP may also serve as the WPC manager per the City's discretion. Unless otherwise directed by the Engineer, the Contractor shall be responsible for uploading all required documentation under this section to the Stormwater Multiple Application and Report Tracking

- System (SMARTS) [webpage](#).
- Upon completion of the project, the Contractor shall provide all documentation necessary for the City's Legally Responsible Person (LRP) to file the Notice of Termination (NOT), including final stabilization photos, final site maps, SWPPP amendments, final inspection reports, and post-construction BMP documentation.

Refer to the Sections below for additional submittals and requirements.

14-1.3 Submittals

Replace Section 13-1.01C, "Submittals," of the Standard Specifications with the following:

Within 24 hours after a non-stormwater discharge, or within 48 hours after (1) the end of a storm event resulting in a discharge or (2) receiving a written notice or an order from the RWQCB or another regulatory agency, submit the following information:

1. Date, time, location, and nature of the activity and the cause of the discharge, notice, or order
2. Type and quantity of the discharge
3. WPC practices in use before the discharge or before receiving the notice or order
4. Description of WPC practices and corrective actions taken to manage the discharge or cause of the notice

The Contractor shall submit the following documents to the City prior to construction:

1. Name and contact for the WPC manager or QSP/QSD as applicable to the Project
2. Where applicable: locations of the solid waste disposal and wash-off areas (for ingress/egress)
3. Where applicable: a plan showing locations of any proposed material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
4. Plan showing the proposed activity in each portion of the work area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.
5. Where requested by the City: a letter of compliance to the Engineer that the Contractor's personnel received training from the city appointed biologist and archaeologist.
6. Where applicable to the project: Spill Prevention and Accidental Spill Containment Plan.
7. Prior to the construction, the Contractor shall tour the site with the Engineer (or his/her designee from the City). The purpose of the meeting is to document existing site conditions and outline impacts by the proposed work. The meeting will also be used to identify potential storage areas and access routes (where approved by the City). Special attention will be paid to documenting the condition of trees, shrubs, and grassed areas. The Contractor shall submit its findings (as a PDF Plan mark-up and video) to the City in electronic format.

14-1.4 Training

Replace Section 13-1.01D, "Quality Assurance," of the Standard Specifications with the following:

Employees must receive initial WPC training before starting work at the job site.

For project managers, supervisory personnel, subcontractors, and employees involved in WPC work:

1. Provide stormwater training in the following subjects:
 - a. WPC rules and regulations
 - b. Implementation and maintenance of:
 - i. Temporary soil stabilization
 - ii. Temporary sediment control
 - iii. Tracking control
 - iv. Wind erosion control
 - v. Material pollution prevention and control
 - c. Waste management
 - d. Non-stormwater management
2. Conduct weekly training meetings covering:
 - a. Deficiencies and corrective actions for WPC practices
 - b. WPC practices required for work activities during the week
 - c. Spill prevention and control
 - d. Material delivery, storage, usage, and disposal
 - e. Waste management
 - f. Non-stormwater management procedures

Training for assistant WPC managers who inspect, repair, and maintain WPC practices, collect water quality samples, and record water quality data must include:

1. Review of the sampling and analysis plan and the Construction Site Monitoring Program Guidance Manual
2. Health and safety review
3. Sampling simulations

14-1.5 Water Pollution Control Manager

Section 13-1.01D(4)(b), "Qualifications" of the Standard Specifications is replaced with the following:

The WPC manager must comply with the requirements provided in the Construction General Permit for QSP.

Section 13-1.01D(4)(c), "Responsibilities" of the Standard Specifications is replaced with the following:

The WPC manager must:

1. Be the primary contact responsible for WPC work
2. Oversee WPC work, including:
 - a. Maintenance of WPC practices
 - b. Inspections of WPC practices identified in the Plans and SWPPP (where applicable)
 - c. Inspections and reports for visual monitoring
 - d. Sampling and analysis
 - e. Preparation and submittal of:
 - i. NAL exceedance reports
 - ii. Violation reports for the receiving water monitoring trigger
 - iii. Annual reports
 - iv. Stormwater Site Inspection Reports

3. Have the authority to:
 - a. Mobilize crews to make immediate repairs to WPC practices
 - b. Stop construction activities damaging WPC practices or causing water pollution
4. Ensure that all employees have current WPC training and provide training if collecting water quality samples is delegated
5. Implement the Erosion Control Plans or the SWPPP (where applicable)
6. Be at the job site within 2 hours of being contacted

14-1.6 Construction

14-1.6.1 General

Section 13-1.03A, "General," of the Standard Specifications is replaced with the following:

- A. Monitor the National Weather Service's forecast daily at its website.
- B. Install facilities and devices used for water pollution control practices before performing work activities. Install soil stabilization and sediment control materials for water pollution control practices in all work areas that are inactive or before storm event as described herein. Repair or replace water pollution control facilities and devices within twenty-four (24) hours of discovering any damage, unless a longer period is authorized in writing. The City does not pay cleanup, repair, removal, disposal, or replacement of water pollution control practices due to improper installation or neglect.
- C. The Contractor may request changes to the water pollution control work or the Engineer may order changes to the water pollution control work. Changes may include additional or new water pollution control practices. Additional/new water pollution control work, approved in writing by the Engineer, may be considered as change order work.
- D. The Contractor must retain a copy of the Plans and SWPPP (where applicable) onsite at all times.
- E. Previously Used Equipment - The Contractor shall thoroughly clean all construction equipment previously used at other sites before it is brought into the work areas, ensuring that soil residuals are removed and that egg deposits from plant pests are not present; the Contractor shall consult with the U.S. Department of Agriculture (USDA) jurisdictional office for additional cleaning requirements.
- F. Resources - The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify and flag the land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms without permission. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, earth or other material displaced into uncleared areas shall be removed.
- G. Work Area Limits
 1. Work shall be limited to areas within public rights-of-way as designated by the Engineer. Storage and staging areas within the public right-of-way is not permitted unless exempted in writing at the sole discretion of the Engineer. Where requested by the Engineer, the contractor shall submit plans displaying

the dimensions and location(s) of storage areas, and impacts to public access and City facilities, for the Engineer's approval at no additional cost to the City. Isolated areas within the general work area, which are to be saved and protected shall be marked or fenced prior to the start of construction. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects and have attended the training provided by the City appointed biologist (if applicable to the project).

2. The contractor shall install silt fencing in all areas where construction occurs within 100 feet of known or potential O. mykiss, pacific lamprey habitat, and as shown on the plans.
3. The contractor shall avoid any jurisdictional features (i.e., wetlands, riparian zones & waterways) identified in the pre-construction survey conducted by the corresponding specialist hired by the City to identify these areas.

H. Fish, Wildlife, and Other Resources

1. The Contractor shall minimize interference with, disturbance to, and damage of fish and wildlife. The Contractor shall follow the guidance provided during the environmental training sessions and the project's environmental permit where applicable (including permits from the California Department of Fish and Wildlife).
2. All work activities within or adjacent to potential California Red Legged Frog (CRLF) aquatic habitat will be completed between May 1 and November 1 (with the concurrence of the CDFG, which typically requires in-stream work to be completed by October 15).
3. Exclusionary fencing (i.e., silt fences) will be installed as shown on the plans, and will include additional fencing to enclose the Contractor-selected access route.
4. If the Contractor selects an access route through vegetated areas, the Contractor shall place mats along the route to form a temporary road to distribute the weight of the equipment and minimize soil compaction and rutting. The type of mat will depend on the size of equipment that needs to access the stream, the duration that the mats will be in place, and the time of year. Materials include: timber mats (platforms made of several dimensioned timbers fastened into a platform); log corduroys (logs placed along each other to form a road); Land Bridge MatsTM made from recycled truck tires (for short durations only); expanded metal grating, bridge decks; and sectional high-density polyethylene mats. The Contractor shall submit proposed material to the Engineer for approval.

I. Other Protection Measures

1. Traffic Restrictions: Traffic will be restricted to designated access roads and within the designated work area. Vehicle speeds will be restricted to 20 miles per hour or less except on county roads and state and federal highways. Night driving will be limited to the extent practicable. The Contractor will notify the City if night construction is unavoidable.
2. Dust: Dust abatement will be used in all construction areas, especially adjacent to the restricted areas identified by the City or its representatives. No chemicals will be used without written permission from the City.
3. Trash Disposal: Food-related trash will be deposited in closed containers and removed from the project site daily to avoid attracting wildlife to construction areas.
4. Pets and Firearms: Pets and firearms will not be permitted on construction sites.
5. Report Wildlife Injuries: All wildlife injuries or mortalities, whether related or unrelated to construction activities, will be reported to the City or its representatives. This does not apply to rabbits or squirrels.

6. Special-Status Birds: Nonessential construction activities and blasting within approximately 0.5 miles of any active bird nest may be prohibited during breeding season.

14-1.6.2 Inspections

Section 13-1.03C, "Inspections," of the Standard Specifications is replaced with the following:

Inspect WPC practices identified in the Erosion Control Plans and SWPPP (where applicable):

1. Before a forecasted storm event
2. After a storm event that produces runoff
3. At 24-hour intervals during extended storm events
4. On a predetermined schedule of at least once a week

Inspect the following work activities and areas daily:

1. Storage areas for hazardous materials and waste
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities
4. Demolition sites

Inspect vehicles and equipment at the job site daily for leaks and spills. Verify that operators are inspecting vehicles and equipment each day of use.

Inspect the following work activities and areas daily if the activity occurs daily or weekly if the activity occurs weekly:

1. Vehicle and equipment cleaning facilities
2. Vehicle and equipment maintenance and fueling areas
3. Pile driving areas for leaks and spills
4. Temporary concrete washouts
5. Paved roads at job site access points for street sweeping
6. Dewatering work
7. Work over water

14-1.6.3 Deficiencies

Section 13-1.03D, "Deficiencies," of the Standard Specifications is replaced with the following:

If a deficiency in the implementation of the Erosion Control Plans or SWPPP is identified, immediately correct the deficiency unless a later date is authorized, but before precipitation occurs.

The City does not pay for cleanup, repair, removal, disposal, or replacement of Water Pollution Control (WPC) practices due to improper installation or negligence. The City does not pay for WPC practices at Contractor-support facilities and noncommercially operated borrow or disposal sites.

The Engineer will notify the Contractor in writing of any observed noncompliance with the Federal, State, Regional or local laws, regulations, or permits, including but not limited to the Construction General Permit, Municipal Regional Stormwater NPDES Permit, or Menlo Park Municipal Code. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective action and take such action when approved

by the Engineer. If the Contractor fails to comply promptly, the City may issue an order suspending all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspensions. Any suspension, delay, or interruption resulting from the Contractor's failure shall be treated as a suspension ordered by the Engineer and no additional compensation shall be allowed therefor.

14-2 Measurement and Payment

Section 13-1.04, "Payment," of the Standard Specifications is replaced with the following:

Full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to complete work under this section shall be considered as included in the prices paid as incidental under bid items requiring erosion control, if any, and no additional compensation shall be allowed therefor.



Appendix A

- City of Menlo Park Waste Management Form,
Waste Management Daily Transport Report



County of San Mateo WASTE MANAGEMENT PLAN

Case/Group Number(s):

BLD _____ - _____

Project Address:

Street: _____

City: _____

SUBMIT TO:

County of San Mateo
Office of Sustainability
455 County Center, 4th Floor
Redwood City, CA 94063
Mon-Fri, 8:30 am-12:00 pm, 1:00 pm-4:30 pm

INFORMATION AND SUPPORT: www.RecycleWorks.org/con_dem
1-888-442-2666

WMP REQUIRED BECAUSE PROJECT IS A:

- ☐ Residential ☐ Demolition
☐ Nonresidential ☐ New Construction
☐ Addition
☐ Remodel

Section One: Permit Application

This Waste Management Plan (WMP) must be completed, submitted for review along with a **\$95 administration fee**, and approved to obtain a building permit. Separate WMPs must be completed for demolition and construction at the same site unless the Building Department requires only one permit. Need for a WMP is at the discretion of the Building Official or designee.

Applicant's Name: _____ Owner's Name: _____

Contact Phone Number: _____

Applicant is (please check one): ☐ Owner ☐ Architect ☐ Builder ☐ Owner/Builder ☐ Other _____

Contractor (if applicable): _____ Contact Phone Number: _____

Project Type(s): ☐ New ☐ Remodel ☐ Addition ☐ Demolition Project Square Footage: _____

Project Description: _____

Estimated Completion Date: _____

Waste Management Requirements:

You are required to recycle or re-use all inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and 65% of all construction and demolition debris.

I understand that I am required by San Mateo County Building Regulations Section 9210 - Adoption Of 2016 California Green Building Standards Code (Building Regulations) to salvage, reuse, or recycle **all inert solids** (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and a **minimum of 65%** of all construction and demolition debris (C&D). _____ (Initial)

I understand that failure to meet the requirements of the Building Regulations shall constitute a misdemeanor, and shall be punishable by imprisonment in the county jail for up to 6 months and/or a fine of up to \$1,000, calculated as a percentage of the required 65% diversion of C&D debris, and that the fine must be paid as a condition of final approval. _____ (Initial)

At the completion of this project, or more frequently if required, all weight tags or other equivalent documentation from salvage, recycling and waste facilities will be provided and I understand that I may not be issued my final inspection unless all original receipts and documentation are submitted to the County of San Mateo Office of Sustainability. _____ (Initial)

Recycling and waste facilities ask for the correct origin of the materials generated as they come through the scale house. These tons are reported to the State of California. I understand that I need to advise my debris box company, waste haulers, and my drivers that the materials generated on this project originated in Unincorporated County of San Mateo. _____ (Initial)

1) SALVAGE AND REUSE:

What materials will be salvaged? _____

Salvage company (if applicable): _____

What materials will be reused on site? _____

How will this be documented? _____

2) MATERIAL TRANSPORTATION:

Will you be using a hauling company, debris box company or hauling the material yourself? (Check one)

☐ Hauler ☐ Debris Box ☐ Self-haul

If using a hauling or debris box company, which company? _____

Have they been notified that the diversion of 65% mixed debris and all insert solids is required? ☐ Yes ☐ No

3) WASTE MANAGEMENT PLAN:

Check the materials you anticipate generating and fill in the facilities that you plan to use.

Category	Material	√	Reuse, Recycling or Disposal Facility
Mixed C&D	Mixed Debris		
Inerts	Asphalt		
	Bricks		
	Concrete		
	Dirt		
	Other inert solids		
Source Separated	Cardboard		
	Metals		
	Wood		
	Roofing		
	Carpet		
	Drywall		
	Yard trimmings		
	Other		
Disposal	Waste		

The undersigned hereby agrees to comply with the Waste Management Plan as submitted and is the owner or authorized agent to sign for the owner of this project.

Applicant Signature _____ Date _____

County Approval: ☐ Approved ☐ Approved with comments ☐ Denied

All receipts, weight tags and documentation for salvage, recycling, and disposal must be submitted:

☐ On completion of project ☐ Other _____

Office of Sustainability Approval: _____ Date: _____



County of San Mateo WASTE MANAGEMENT PLAN

Case/Group Number(s): BLD _____ - _____ Project Address: Street: _____ City: _____
--

Section Two: Final Report Approval

Please complete, submit, and get this section approved by the Office of Sustainability, prior to obtaining final approval by the Building Department no later than 30 days after completion of the demolition or construction project. Please provide weight of materials in **tons**. If needed, please use the conversion table on the next page to convert cubic yards to tons.

This section must be completed and signed, and all receipts or other supporting documentation must be attached in order to receive final project approval.

Category	Date	Material/items	Name of facility debris was hauled to	Weight (Tons)	Volume (CU. YD.)
Mixed C&D Debris					
Salvage					
Inerts Asphalt, bricks, concrete, dirt, rock, sand, soil, stone					
Source Separated Cardboard, wood, metal, sheetrock, wire, carpet, yard trimmings					
Disposal (Waste)					

- ☐ All receipts or equivalent documentation for salvage, recycling, and disposal are hereby attached.
☐ This project has recycled all of the inert solids and at least 65% of all debris generated.

Applicant Signature _____ Date _____

County Approval: ☐ Approved ☐ Approved with Comments ☐ Fine Payment Required

Comments:

Fine Calculation: $1 - (\text{C\&D Diversion \% Achieved} \div 65\%) \times \$1000 = \$$ _____

Office of Sustainability Approval: _____ Date: _____



County of San Mateo WASTE MANAGEMENT PLAN

Cubic Yards to Tons Conversion Table

Category	Material	Cubic Yards	Pounds	Tons
Mixed Load C&D	Mixed load C&D	1	500	0.25
Inerts	Asphalt	1	1380	0.69
	Bricks	1	3000	1.5
	Concrete	1	1860	0.93
	Dirt	1	2000	1
	Other inert solids	1	1240	0.62
Source Separated	Cardboard	1	100	0.05
	Metals	1	900	0.45
	Wood	1	300	0.15
	Asphalt roofing	1	1188	0.594
	Carpet	1	600	0.3
	Drywall	1	400	0.2
	Green waste	1	300	0.15
	Gravel	1	2600	1.3
Disposal	Waste	1	300	0.15



Appendix B

- San Mateo County and CAL/OSHA COVID-19 Construction information and protocols links

12. Appendix G - COUNTY OF SAN MATEO AND CAL/OSHA DURING COVID-19 INFORMATION AND CONSTRUCTION PROTOCOLS
13.
 - o Statement:
14. <https://cmo.smcgov.org/press-release/regional-shelter-place-orders-extended-some-rules-ease>
- o Order:
15. <https://www.smcgov.org/sites/smcgov.org/files/documents/files/Health%20Officer%20Order%20Revising%20Shelter%20In%20Place%20Through%20May%2031.pdf>
- o Social Distancing Protocols:
16. <https://www.smcgov.org/sites/smcgov.org/files/documents/files/APPENDIX%20A%20Social%20Distancing%20Protocol.pdf>
- o Small Construction Project Safety Protocols:
17. <https://www.smcgov.org/sites/smcgov.org/files/documents/files/APPENDIX%20B%201%20Small%20Construction%20Project%20Safety%20Protocol.pdf>
- o Large Construction Project Safety Protocols:
18. <https://www.smcgov.org/sites/smcgov.org/files/documents/files/APPENDIX%20B%202%20Large%20Construction%20Project%20Safety%20Protocol.pdf>
- o Cal-OSHA
19. <https://dir.ca.gov/dosh/coronavirus/COVID-19-Infection-Prevention-in-Construction.pdf>



Appendix C

- Construction Plans

CITY OF MENLO PARK BELLE HAVEN CHILD DEVELOPMENT CENTER ELECTRIFICATION PROJECT - No. CPB025

410 IVY DRIVE, MENLO PARK, CA 94025
CONSTRUCTION DOCUMENTS



PROJECT DESCRIPTION:

THE PROJECT WILL ELIMINATE FOSSIL FUEL USAGE AT THE BELLE HAVEN CHILD DEVELOPMENT CENTER, IMPROVEMENTS THAT REFLECT THE GOALS OF THE CITY'S CLIMATE ACTION PLAN. THE EXISTING GAS FURNACES WILL BE REPLACED WITH NEW, EFFICIENT HEAT PUMP HVAC SYSTEMS, INCLUDING IMPROVED FILTRATION AND OUTDOOR AIR EXCHANGE SYSTEMS. BUILDING AUTOMATION SYSTEM CONTROLS, COMPATIBLE WITH THE CITY'S EXISTING SYSTEMS, WILL BE INSTALLED TO ALLOW CITY STAFF TO MONITOR SYSTEM CONDITIONS AND CONTROL AIR HANDLING SYSTEMS DURING AIR QUALITY EVENTS.

IMPROVEMENTS INCLUDE THE FOLLOWING ELEMENTS:

- REPLACE FIVE (5) EXISTING GAS FURNACES WITH ELECTRIC HEAT EXCHANGE SYSTEMS
- INSTALLATION OF OUTDOOR AIR EXCHANGE EQUIPMENT AND FILTRATION
- REPLACE ONE EXISTING 30" GAS RANGE AND TWO EXISTING ELECTRIC RANGES WITH WITH ELECTRIC INDUCTION RANGES
- INTERIOR AND EXTERIOR LIGHTING EFFICIENCY UPGRADES
- INSTALLATION OF REMOTE OPERABLE HVAC CONTROL SYSTEMS AND LOCAL AIR QUALITY SENSOR

ADDITIVE/ALTERNATE BID ITEMS;

- ADD1 MINI SPLIT HVAC AT ADMINISTRATION BUILDING ELECTRICAL ROOM
- ALT1 REPLACEMENT OF PENDANT LIGHTING FIXTURES AT CLASSROOMS AND ADMIN MULTIPURPOSE ROOM WITH NEW FIXTURES

SHEET INDEX:

GENERAL

- G000 COVER SHEET
- G001 SHEET INDEX, ABBREVIATIONS AND LEGEND
- G002 GENERAL NOTES
- G010 CALGREEN CHECKLIST
- G011 CALGREEN CHECKLIST

ARCHITECTURAL

- A001 PHOTOS
- A002 SITE PLAN
- A101 FLOOR PLAN
- A103 ROOF PLAN
- A111 REFLECTED CEILING PLAN

MECHANICAL

- M0.01 MECHANICAL - TITLE SHEET
- M0.03 MECHANICAL - T-24
- M0.04A BAS CONTROL DIAGRAM
- M0.04B FAN COIL CONTROL PLAN
- M1.00 ADMIN PLAN
- M1.01 CLASSROOM DEMO PLAN
- M2.01 CLASSROOM FLOOR PLAN
- M1.02 DEMO ROOF PLAN
- M2.02 CLASSROOM ROOF PLAN
- M5.01 MECHANICAL DETAILS

ELECTRICAL

- E000 LEGEND, NOTES AND SYMBOLS
- E200 FLOOR PLANS - LIGHTING
- E300 FLOOR PLANS - POWER & SIGNAL
- E301 ROOF PLAN - POWER & SIGNAL
- E400 SINGLE LINE DIAGRAM & SCHEDULES
- E500 ELECTRICAL DETAILS
- EN1 TITLE 24 COMPLIANCE DOCUMENTATION



Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

COVER SHEET

Sheet Number:

G000

ABBREVIATIONS:

⊙	AT	JT.	JOINT
⊕	CENTERLINE	LAM.	LAMINATE(d)
⌀	DIAMETER OR ROUND	LB, LBS.	POUND(S)
#	POUND OR NUMBER	LOC.	LOCATION
"	INCH	LONG.	LONGITUDINAL
'	FOOT OR FEET	LT.	LIGHT
ABI #	ADDITIVE ALTERNATE BID ITEM (ADD ALT)	MAINT.	MAINTENANCE
ACT	ACOUSTICAL CEILING TILE	MAX.	MAXIMUM
ADA	AMERICANS WITH DISABILITIES ACT	MECH.	MECHANICAL
ADJ.	ADJACENT	MTL.	METAL
A.F.F.	ABOVE FINISH FLOOR	MFR.	MANUFACTURER
ARCH.	ARCHITECTURAL/ARCHITECT	MIN.	MINIMUM
		MISC.	MISCELLANEOUS
		MNTG.	MOUNTING
BLDG.	BUILDING	(N)	NEW
BOT.	BOTTOM	N	NORTH
B.O.	BOTTOM OF	N/A	NOT APPLICABLE
BR	BULLET RESISTANCE		or NOT AVAILABLE
BTWN.	BETWEEN	N.I.C.	NOT IN CONTRACT
		NO.	NUMBER
		N.T.S.	NOT TO SCALE
CBC	CALIFORNIA BUILDING CODE	O.C.	ON CENTER
CFCI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED	O.D.	OWNER FURNISHED/CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED/OWNER INSTALLED	OFCI	OUTSIDE DIAMETER
CLG.	CEILING	OFOI	OWNER FURNISHED/OWNER INSTALLED
CLR.	CLEAR	O.H.	OPPOSITE HAND
COL.	COLUMN	OPNG.	OPENING
CONC.	CONCRETE	OPP.	OPPOSITE
CONT.	CONTINUOUS		
CR	CARD READER	P.A.F.	POWDER ACTUATED FASTENER
d	PENNY (NAIL SIZE)	PERP.	PERPENDICULAR
DEMO	DEMOLITION	P.I.V.	POST INDICATOR VALVE
DET.	DETAIL	PL.	PLATE OR PROPERTY LINE
DIA.	DIAMETER	PLYWD.	PLYWOOD
DIAG.	DIAGONAL	PSF	POUNDS PER SQUARE FOOT
DIM(S)	DIMENSION(S)	P.T.	PRESSURE TREATED
DWG(S)	DRAWINGS	QTY.	QUANTITY
(E)	EXISTING	R	RADIUS
EA.	EACH	R.C.P.	REFLECTED CEILING PLAN
E.F.	EACH FACE	REINF.	REINFORCED/REINFORCING
EFTR	EXISTING FINISH TO REMAIN	REQ'D	REQUIRED
ELEC.	ELECTRICAL	REV	REVISION
ELEV.	ELEVATION	RM.	ROOM
ENG.	ENGINEER	R.O.W.	RIGHT OF WAY
EQ.	EQUAL	S.A.D.	SEE ARCHITECTURAL DWGS
EQUIP.	EQUIPMENT	SDI	STORM DRAIN INLET
ETR.	EXISTING TO REMAIN	S.E.D.	SEE ELECTRICAL DWGS
EXT.	EXTERIOR	SF.	SQUARE FOOT
EXP.	EXPOSED	SIM.	SIMILAR
		S.M.D.	SEE MECHANICAL DRAWINGS
F.E.C.	FIRE EXTINGUISHER CABINET	SMS	SHEET METAL SCREW
F.F.	FINISH FLOOR	S.P.D.	SEE PLUMBING DWGS
F.O.F.	FACE OF FINISH	SPEC.	SPECIFICATION
FT.	FOOT OR FEET	STL.	STEEL
FURR.	FURRING	STRUCT.	STRUCTURE/STRUCTURAL
		SUSP.	SUSPEND(ED)
GA.	GAUGE OR GAGE	T&B	TOP & BOTTOM
GALV.	GALVANIZED	THRU	THROUGH
CG.	CORNER GUARD	T.O.C.	TOP OF CONCRETE
GL.	GLASS or GLAZED	T.O.S.	TOP OF STEEL
GR.	GRADE	TYP.	TYPICAL
G.S.M.	GALVANIZED SHEET METAL		
H.M.	HOLLOW METAL	U.L.	UNDERWRITER'S LABORATORY
HR.	HOUR	U.O.N.	UNLESS OTHERWISE NOTED
HT.	HEIGHT	U.N.O.	UNLESS NOTED OTHERWISE
H.V.A.C.	HEATING/VENTILATING /AIR CONDITIONING	V.I.F.	VERIFY IN FIELD
IN.	INCHES	W/	WITH
INFO	INFORMATION	WD.	WOOD
INSUL.	INSULATION	W/O	WITHOUT
INT.	INTERIOR	W.R.B.	WEATHER RESISTIVE BARRIER

LEGEND:

	NORTH		ALIGN		WORK POINT, DATUM, ELEVATION
	CENTERLINE/GRIDLINE		ROOM NAME & ROOM NUMBER		SITE PHOTO
	DETAIL #		PARTITION TYPE CALLOUT SEE SHEET A511		DETAIL CUT
	18/A600 SHEET NAME		PLAN/DETAIL CALLOUT		REVISION NUMBER
	DETAIL NUMBER		INTERIOR ELEVATION CALLOUT		EXTENT OF REVISION
	SHEET WHERE DETAIL OCCURS		EXTERIOR ELEVATION CALLOUT		
	BUILDING SECTION				
	KEYNOTE				

VICINITY MAP:



PROJECT SITE MAP:



SHEET INDEX:

GENERAL	
G000	COVER SHEET
G001	SHEET INDEX, ABBREVIATIONS AND LEGEND
G002	GENERAL NOTES
G010	CALGREEN CHECKLIST
G011	CALGREEN CHECKLIST
ARCHITECTURAL	
A001	PHOTOS
A002	SITE PLAN
A101	FLOOR PLAN
A103	ROOF PLAN
A111	REFLECTED CEILING PLAN
MECHANICAL	
M0.01	MECHANICAL – TITLE SHEET
M0.03	MECHANICAL – T-24
M0.04A	BAS CONTROL DIAGRAM
M0.04B	FAN COIL CONTROL PLAN
M1.00	ADMIN PLAN
M1.01	CLASSROOM DEMO PLAN
M2.01	CLASSROOM FLOOR PLAN
M1.02	DEMO ROOF PLAN
M2.02	CLASSROOM ROOF PLAN
M5.01	MECHANICAL DETAILS

ELECTRICAL	
E000	LEGEND, NOTES AND SYMBOLS
E200	FLOOR PLANS – LIGHTING
E300	FLOOR PLANS – POWER & SIGNAL
E301	ROOF PLAN – POWER & SIGNAL
E400	SINGLE LINE DIAGRAM & SCHEDULES
E500	ELECTRICAL DETAILS
EN1	TITLE 24 COMPLIANCE DOCUMENTATION

APPLICABLE BUILDING CODES:

2025 CALIFORNIA BUILDING CODE (CBC)
2025 CALIFORNIA PLUMBING CODE (CPC)
2025 CALIFORNIA MECHANICAL CODE (MC)
2025 CALIFORNIA ELECTRICAL CODE (CEC)
NFPA 70 2023 NATIONAL ELECTRIC CODE (MEC)
2025 CALIFORNIA ENERGY CODE (NEC)
2025 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN)
COUNTY OF SAN MATEO, CALIFORNIA – ZONING REGULATIONS (7/17/2024),
SAN MATEO COUNTY – ORDINANCE CODE

100% CONSTRUCTION
DOCUMENTS



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330
City Project Number: CFB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

SHEET INDEX,
ABBREVIATIONS AND
LEGENDS

Sheet Number:

G001

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE PLANS, DETAILS AND SPECIFICATIONS PREPARED FOR THE PROJECT. ANY DEVIATION FROM APPROVED PLANS DURING CONSTRUCTION WILL REQUIRE 48 HOURS PRIOR WRITTEN NOTICE TO AND SUBJECT TO THE APPROVAL OF THE OWNER OR DESIGNEE. ALL WORKMANSHIP, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THESE PLANS, THE LATEST CALIFORNIA BUILDING, PLUMBING AND ELECTRICAL CODES, THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.
2. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
3. CONTRACTOR SHALL CONTACT THE OWNER OR DESIGNEE, TO ARRANGE A PRE-CONSTRUCTION CONFERENCE FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS AND CITY OF MENLO PARK PROCEDURES.
4. CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE AT THE PRE-CONSTRUCTION CONFERENCE, NO LESS THAN 2 WEEKS PRIOR TO THE START OF WORK.
5. CONTRACTOR SHALL NOTIFY THE OWNER OR DESIGNEE, AT LEAST 72 HOURS IN ADVANCE OF COMMENCEMENT OF ANY PART OF THE WORK.
6. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT TEMPORARY BARRICADES TO PROVIDE FOR THE SAFETY OF THE STAFF AND PUBLIC TO THE SATISFACTION OF THE ENGINEER.
7. CONTRACTOR SHALL VERIFY LOCATIONS, LEVELS, DISTANCES, AND FEATURES THAT MAY AFFECT THE WORK. SHOULD EXISTING CONDITIONS DIFFER FROM THOSE SHOWN OR INDICATED IN THESE PLANS, STANDARD SPECIFICATIONS, AND SPECIAL PROVISIONS, OR IF IT APPEARS THAT THESE PLANS, STANDARD SPECIFICATIONS, AND SPECIAL PROVISIONS DO NOT ADEQUATELY DETAIL THE WORK TO BE DONE, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WITH ANY RELATED WORK. NO ALLOWANCE WILL BE MADE IN THE CONTRACTOR'S BEHALF FOR ANY EXTRA EXPENSE RESULTING FROM FAILURE OR NEGLIGENCE IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
8. ALL MATERIALS SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING STRUCTURES AND UTILITIES DURING CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL AND/OR ERECT THE CONSTRUCTION AS REQUIRED TO PROPERLY COMPLETE THE WORK. MISCELLANEOUS ITEMS OF WORK, MATERIAL, EQUIPMENT, ETC. NECESSARY TO COMPLETE THE INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR WHETHER OR NOT MENTIONED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS.
11. CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS TO MAINTAIN ACCESS AND PROGRAM OPERATIONS THROUGHOUT THE PERIOD OF CONSTRUCTION.
12. CONTRACTOR SHALL PROPERLY COORDINATE HIS WORK WITH THE WORK UNDER OTHER CONTRACTS THAT MAY BE UNDERWAY CONCURRENTLY WITH THIS PROJECT.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY AND THE ARCHITECT OF ANY DIFFERENCES IN LOCATIONS OF EXISTING UTILITIES FROM THAT SHOWN, OR ANY CONFLICTS WITH THE DESIGN BEFORE CONTINUING WORK IN THAT AREA.
14. ALL REVISIONS TO THESE DOCUMENTS SHALL BE APPROVED BY THE OWNER OR DESIGNEE PRIOR TO CONSTRUCTION AND SHALL BE ACCURATELY REPRESENTED IN REVISED PLANS PRIOR TO THE ACCEPTANCE OF THE WORK AS COMPLETE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER OR DESIGNEE.
15. THE CONTRACTOR SHALL PROVIDE PROMPT, WRITTEN NOTIFICATION TO OWNER AND THE ARCHITECT CONCERNING CONFLICTS WITH, OR RECOMMENDED DEVIATIONS FROM CODES, LAWS, REGULATIONS, STANDARDS, AND OPINIONS OF REVIEW OFFICIALS AS DESCRIBED ABOVE.
16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE DRAWINGS FROM THE APPROPRIATE AGENCIES.
17. SAFETY OF PERSONNEL AND PROPERTY DURING DEMOLITION AND EXCAVATION WORK IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. ONLY THE EXTENT OF THE WORK IS INDICATED;

- AND NOT THE METHOD, SEQUENCE, OR SAFETY PROCEDURES AND CONSIDERATIONS. REVIEW OF THE CONTRACTOR'S SUBMITTALS IS NOT INTENDED TO RELIEVE HIM/HER OF ANY OF THE ABOVE RESPONSIBILITY.
18. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY.
19. THE NOISE LEVEL OF THE CONTRACTOR'S OPERATING SHALL BE KEPT TO A MINIMUM AS PER LOCAL STANDARDS.
20. THE CONTRACTOR SHALL EMPLOY MEANS NECESSARY TO CONTROL DUST AT AND NEAR THE SITE OF WORK AND ALONG APPROACH ROUTES TO THE CONSTRUCTION SITE. ADJACENT STREETS ARE TO BE CLEANSED DAILY OF DIRT AND DEBRIS THAT ARE THE RESULT OF OPERATION. CONTROL DUST AS NEED DICTATES.
21. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR, OR SUBCONTRACTOR OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF ANY AIRBORNE NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY CONTRACTOR OR HIS SUBCONTRACTOR ACTIVITIES IN PERFORMING THE WORK UNDER THIS CONTRACT AND SHALL BE RESPONSIBLE FOR ANY CITATIONS, FINES OR CHARGES RESULTING FROM DUST NUISANCE.
22. THE CONTRACTOR SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

A. WATERING OR COVERING OF STOCKPILES OF DEBRIS, SOIL, SAND OR OTHER MATERIALS THAT CAN BE BLOWN BY WIND

B. COVER ALL TRUCKS HAULING SOIL, SAND AND OTHER LOOSE, MATERIALS OR ALL TRUCKS SHALL MAINTAIN TWO FEET CLEAR, BETWEEN HAULED MATERIALS AND THE TOP OF THE TRUCK BED
23. IF ANY CULTURAL FEATURES OR ARCHEOLOGICAL MATERIALS ARE UNCOVERED DURING GRADING, TRENCHING OR OTHER EXCAVATION WORK ALL WORK WITHIN 100 FEET OF THESE MATERIALS SHALL BE STOPPED UNTIL A PROFESSIONAL ARCHEOLOGIST (SOPA) AND/OR THE SOCIETY OF CALIFORNIA ARCHEOLOGY (SCA) HAS HAD THE OPPORTUNITY TO EVALUATE THE SIGNIFICANCE OF THE FIND APPROPRIATE MITIGATION MEASURES HAVE BEEN DETERMINED AND IMPLEMENTED THE CONTRACTOR SHALL ALSO IMMEDIATELY NOTIFY THE CITY'S REPRESENTATIVE.
24. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE CALIFORNIA STORM WATER CONSTRUCTION BMP HANDBOOK. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING STORM WATER BMP's AND MAINTAINING THEM DURING CONSTRUCTION AS REQUIRED.
25. THE CONTRACTOR SHALL MEET AND FOLLOW ALL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM REQUIREMENTS IN EFFECT AT THE TIME OF CONSTRUCTION.
26. CONTRACTOR SHALL MAINTAIN GOOD HOUSEKEEPING PRACTICES AT THE JOB SITE. EXCESS BUILDING MATERIALS AND DEBRIS SHALL BE REMOVED PROMPTLY FROM THE JOB SITE AND DISPOSED OF AT AN APPROVED DUMPSITE. THE JOB SITE SHALL BE LEFT CLEAN AT THE END OF EACH WORKDAY.
27. THE CONTRACTOR MUST MAINTAIN THE STREETS, SIDEWALKS, AND ANY OTHER PUBLIC & PRIVATE RIGHTS-OF-WAY IN A CLEAN, SAFE, AND USABLE CONDITION. ANY SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS MUST BE REMOVED AND SWEEPED CLEAN FROM THE PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT.
28. CONSTRUCTION OPERATIONS – WASTEWATER GENERATED DURING CONSTRUCTION SHALL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM. THIS INCLUDES WASTE FROM PAINTING, SAWCUTTING, CONCRETE WORK, ETC. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO ELIMINATE DISCHARGE TO THE STORM DRAIN SYSTEM AND, IF NECESSARY, PROVIDE AN AREA FOR ON-SITE WASHING ACTIVITIES DURING CONSTRUCTION. MATERIALS, WHICH COULD CONTAMINATE STORM RUNOFF, SHALL BE STORED IN AREAS WHICH ARE DESIGNED TO PREVENT EXPOSURE TO RAINFALL AND NOT ALLOW STORM WATER TO RUN ONTO THE AREA.
29. FLUSHING OF STREETS AND PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED UNLESS PROPER SEDIMENT CONTROLS ARE USED. PREFERABLY, AREAS REQUIRING CLEANING SHOULD BE SWEEPED.
30. CONTRACTOR SHALL PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. BARRICADES, SIGNS, LIGHTS, ETC., REQUIRED FOR THE PROTECTION OF PERSONNEL, THE PUBLIC PROPERTY AND MATERIAL SHALL BE PROVIDED FOR AND MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR, AND SHALL CONFORM TO ALL GOVERNING CODES, ORDINANCES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OF PUBLIC AND PRIVATE IMPROVEMENTS/FACILITIES DAMAGED BY OPERATIONS INCLUDING BUT NOT LIMITED TO MONUMENTS, BENCHMARKS, AC PAVEMENT, PAVEMENT MARKINGS, TRAFFIC STRIPING AND

- SIGNAGE, TRAFFIC LOOPS, EXISTING FIBER OPTIC, EXISTING SEWER MAINS ETC.
31. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. ONLY ACTUAL DEMOLITION WILL REVEAL THE TYPES, EXTENT, SIZES AND LOCATIONS OF SUCH UTILITIES.
32. ALL KNOWN EXISTING UTILITY LINES ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING UTILITY LINES OR FACILITIES TO REMAIN IN PLACE, WHETHER OR NOT SUCH LINES OR FACILITIES ARE SHOWN ON THESE PLANS, AND SHALL BEAR FULL RESPONSIBILITY FOR ANY DAMAGE THERETO. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH. NEITHER THE CITY NOR THE DESIGN TEAM ASSUMES RESPONSIBILITIES THAT EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THOSE ENCOUNTERED. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL NOTIFY AN UNDERGROUND UTILITY LOCATING COMPANY HIRED BY THE CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE OF CONSTRUCTION TO FIELD LOCATE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION ALL WORK SHALL BE BORNE BY THE CONTRACTOR.
33. CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK TO AVOID CONFLICTS BETWEEN SEWER, STORM DRAINS, WATER, GAS, COMMUNICATIONS, STEAM AND ELECTRICAL MAINS. THE GENERAL CONTRACTOR SHALL EMPLOY A UTILITY AND SERVICE LOCATOR APPROVED BY THE CITY IN LOCATING BURIED UTILITIES AND SERVICES AT (AND IN THE VICINITY OF) THE PROJECT.
34. CONTRACTOR IS RESPONSIBLE FOR HAVING EXISTING GAS LINES, POWER LINES, WATER LINES, SEWER LINES, COMMUNICATION LINES, CABLE, ELECTRICAL LINES, ETC. DISCONNECTED AND RELOCATED AS NECESSARY. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (U.S.A.) AT 811 OR (800) 642-2444 (NORTHERN CALIFORNIA) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, FOR MARK OUTS OF EXISTING UNDERGROUND FACILITIES. CONTRACTOR SHALL COORDINATE WORK WITH UTILITY COMPANIES.
35. UTILITIES OR SERVICES TEMPORARILY REMOVED OR DISCONNECTED IN ORDER TO PERFORM THE WORK SHALL BE REBUILT OR REPLACED TO MATCH THE (E) CONDITION PRIOR TO THEIR REMOVAL AND REINSTALLATION. SUCH WORK SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.
36. UTILITY CONNECTIONS AND DISCONNECTIONS NECESSARY TO COMPLETE THE WORK WILL BE PERFORMED IN SUCH MANNER IN ORDER TO MINIMIZE UTILITY SERVICE INTERRUPTIONS TO FACILITY OPERATIONS IN THE VICINITY OF CONSTRUCTION. THE CONTRACTOR WILL COORDINATE ALL UTILITY INTERRUPTIONS DURING ALL PHASES OF CONSTRUCTION WITH THE OWNER OR DESIGNEE. COORDINATE ALL "DOWN TIME" WITH OWNER.
37. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ANY DIFFERENCES IN LOCATIONS OF EXISTING UTILITIES FROM THAT SHOWN, OR ANY CONFLICTS WITH THE DESIGN BEFORE CONTINUE WORK IN THAT AREA.
38. ALL EXCAVATIONS SHOULD BE PERFORMED IN ACCORDANCE WITH CAL OSHA REQUIREMENTS.
39. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE ALL MATERIAL AND LABOR REQUIRED WITHIN THE BID PRICE, FOR EARTHWORK CONSTRUCTION, TO CARRY OUT THE CUT/FILL AND/OR IMPORT/EXPORT AS NECESSARY TO MEET THE DESIGN GRADES SHOWN ON THE PLANS. CONTRACTOR IS TO DELIVER TO THE OWNER THE PROJECT IN A COMPLETE AND OPERATIONAL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY INVESTIGATION OR STUDIES THAT ARE REQUIRED BY THE CONTRACTOR TO SATISFY THIS REQUIREMENT. NO ADDITIONAL COMPENSATION SHALL BE PAID FOR SAID CUT/FILL AND/OR IMPORT/EXPORT.
40. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN CONTROL OF THE ENTIRE CONSTRUCTION OPERATION AND TO KEEP THE ENTIRE SITE IN COMPLIANCE WITH STATE AND LOCAL LAWS AND MEASURES.
41. ADJUSTMENTS SHALL BE MADE TO CONSTRUCTION PHASING PLAN AS NECESSARY TO WORK WITH THE CONSTRUCTION PHASING OF THE PROJECT. SUBMIT PHASING PLAN TO THE OWNER OR DESIGNEE FOR APPROVAL.
42. VACUUM, DUST, SWEEP AND REMOVE DEBRIS DAILY.
43. ANY NOISE CAUSED BY CONSTRUCTION (INCLUDING BUT NOT LIMITED BY DEMOLITION, DRYWALL INSTALLATION AND OTHER DISRUPTIVE PORTIONS OF WORK) SHOULD NOT EXCEED OSHA's PERMISSIBLE EXPOSURE LIMIT (PEL) FOR NOISE DURING THE HOURS OF 7:00 AM TO 5:00 PM MONDAY THROUGH FRIDAY. ANY CONSTRUCTION WORK EXCEEDING OSHA NOISE THRESHOLD SHOULD BE DONE DURING OFF HOURS INCLUDING WEEKENDS, HOLIDAYS, EVENINGS AND NIGHTS.

44. COORDINATE ANY NECESSARY ELECTRICAL OR OTHER SYSTEM SHUTDOWN WITH THE OWNER AT LEAST 30 DAYS IN ADVANCE. PROVIDE ALL NECESSARY LIFE SAFETY, SECURITY AND MONITORING DURING SHUTDOWN.
45. PROTECT ALL EXISTING ITEMS AND FINISHES TO REMAIN, FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.
46. PROTECT BUILDING AND PROGRAM PROPERTY, DESKS, OFFICE PAPERS AND EQUIPMENT. INSTALL PLASTIC DUST COVERING TO KEEP AREA CLEAN.
47. PROTECT EXISTING TREES AND VEGETATION TO REMAIN. EXISTING VEGETATION SHALL BE REMOVED ONLY AS DIRECTED BY THE OWNER OR DESIGNEE.
48. PROTECT EXISTING WATER VALVE, IRRIGATION WIRING AND CONTROLS, UTILITIES, COMMUNICATION AND OTHER SITE ATTRIBUTES AS REQUIRED DURING DEMOLITION AND NEW CONSTRUCTION.
49. REPLACE ALL (E) ITEMS TO REMAIN THAT ARE DAMAGED/ REMOVED BY CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO OWNER.
50. PROVIDE ANY NECESSARY ON-SITE OR OFF-SITE STORAGE AND STAGING.
51. MAINTAIN 6'-0" HIGH CONSTRUCTION BARRIERS AS NECESSARY. PROVIDE ADEQUATE SAFETY BARRICADES AT NO ADDITIONAL COST TO CITY.
52. CONTRACTOR IS RESPONSIBLE FOR FINAL CONSTRUCTION PHASING SEQUENCE.
53. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT.
54. CONTRACTOR SHALL ANTICIPATE MINOR DIMENSIONAL ADJUSTMENTS TO MATCH/FIT NEW AND EXISTING CONDITIONS. MINOR DIMENSIONAL ADJUSTMENTS SHALL BE AT NO ADDITIONAL COST TO CONTRACT SUM.
55. EXISTING BUILDING SYSTEMS ARE PARTIALLY SUSPENDED FROM THE STRUCTURE. PORTIONS OF EXISTING WALLS SHALL BE REMOVED AND CEILING SYSTEMS WILL REQUIRE TEMPORARILY AND PERMANENT SUPPORT.
56. CONTRACTOR TO PROVIDE SURVEY SERVICES TO LAYOUT, CONFIRM AND COORDINATE REQUIRED CODE SLOPES AND DIMENSIONS WITH EXISTING CONDITIONS.

SCHOOL FACILITY REQUIREMENTS:

1. PROJECT SITE IS A SCHOOL SUBJECT TO CALIFORNIA EDUCATION CODE SECTION 45125.1 AND ALL APPLICABLE LAWS REGARDING BACKGROUND CHECKS AND CLEARANCES FOR INDIVIDUALS WORKING AT SCHOOL FACILITIES.
2. PROJECT SHALL HAVE A STRICT NON-INTERACTION WITH STUDENTS POLICY. ALL WORK MUST BE CONDUCTED WITHOUT STUDENT CONTACT.
3. CONTRACTOR STAFF AND SUBCONTRACTORS MUST EITHER OBTAIN REQUIRED BACKGROUND CLEARANCES, PERFORM WORK WHEN STUDENTS ARE NOT PRESENT, OR ISOLATE WORK AREAS FROM FACILITY OPERATIONS AND STUDENTS WITH PHYSICAL BARRICADES OR OTHER MEANS.

PHASING NOTES:

1. CHILD DEVELOPMENT CENTER OPERATING HOURS ARE 7:00 AM TO 5:00 PM, MON-FRI. AND CHILDREN WILL BE PRESENT.
2. AFTER HOURS AND WEEKEND CONSTRUCTION WORK MAY BE REQUIRED TO AVOID DISRUPTIONS TO CLASSROOM AND SCHOOL ACTIVITIES.
3. CHILD DEVELOPMENT CENTER OPERATIONS WILL BE MODIFIED TO ALLOW CONSTRUCTION WORK IN ONE CLASSROOM AT A TIME. CLASSROOM WORK MUST BE COMPLETED AND CLASSROOM HVAC SYSTEM OPERATIONAL BEFORE CHILD DEVELOPMENT CENTER OPERATIONS RETURN TO THAT CLASSROOM AND BEFORE A SUBSEQUENT CLASSROOM CAN BE MADE AVAILABLE FOR CONSTRUCTION WORK.
4. PROJECT IS SUBJECT TO PREVAILING WAGES. COSTS FOR SHIFT DIFFERENTIAL OR PAY VARIABLES DUE TO WORK OUTSIDE OF NORMAL WORK HOURS, SHALL BE INCLUDED IN THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREFORE.



Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 82300
Date: APR 10, 2026

Sheet Title:

GENERAL NOTES

Sheet Number:

G002



Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

CALGREEN CHECKLIST

Sheet Number:

G010

A5.602
CALGreen VERIFICATION GUIDELINES
MANDATORY MEASURES CHECKLIST
2025 CALGreen Code

Application: This checklist shall be used for nonresidential projects that meet one of the following: new construction, building additions of 1,000 square feet or greater, or building alterations with a permit valuation of \$200,000 or more pursuant to Section 301.3 AND do not trigger a Tier 1 or Tier 2 requirement:

Y = Yes (section has been selected and/or included)
N/A = Not Applicable (code section does not apply to the project—mainly used for additions and alterations)
O = Other (provide explanation)
[N] = New construction pursuant to Section 301.3
[A] = Additions and/or Alterations pursuant to Section 301.3

Chapter 5 Divisions

DIVISION 5.1 Planning and Design						
Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Deconstruction and reuse of existing structures. Scope with Exception	5.105.1		N/A		
Mandatory	Reuse of existing building & Verification of compliance with note	5.105.2 and 5.105.2.1		N/A		
Mandatory	Storm water pollution prevention for projects that disturb less than 1 acre of land	5.106.1 through 5.106.2		N/A		
Mandatory	Short-term bicycle parking (with exception)	5.106.4.1.1		N/A		
Mandatory	Long-term bicycle parking	5.106.4.1.2 through 5.106.4.1.2.3		N/A		
Mandatory	Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table 5.106.5.3.1	5.106.5.3.1, 5.106.5.3.2, Table 5.106.5.3.1, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.2.3, 5.106.5.3.2.4, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.		N/A		

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DIVISION 5.2 Energy Efficiency

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Meet the minimum energy efficiency standard	5.201.1	Y			

DIVISION 5.3 Water Efficiency and Conservation

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Separate meters (new buildings or additions > 50,000 sf that consume more than 100 gal/day)	5.303.1.1		N/A		
Mandatory	Separate meters (for tenants in new buildings or additions that consume more than 1,000 gal/day)	5.303.1.2		N/A		
Mandatory	Water closets shall not exceed 1.28 gallons per flush (gpf)	5.303.3.1		N/A		
Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.1		N/A		
Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2		N/A		
Mandatory	Single showerhead shall have maximum flow rate of 1.8 gpm (gallons per minute) at 80 psi	5.303.3.3.1		N/A		
Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 gpm at 80 psi	5.303.3.3.2		N/A		
Mandatory	Nonresidential lavatory faucets	5.303.3.4.1		N/A		
Mandatory	Kitchen faucets	5.303.3.4.2		N/A		
Mandatory	Wash fountains	5.303.3.4.3		N/A		
Mandatory	Metering faucets	5.303.3.4.4		N/A		

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DIVISION 5.4 Material Conservation and Resource Efficiency

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Metering faucets for wash fountains	5.303.3.4.5		N/A		
Mandatory	Pre-rinse spray valve	5.303.3.4.6		N/A		
Mandatory	Food waste disposers	5.303.4.1		N/A		
Mandatory	Areas of additions or alterations	5.303.5		N/A		
Mandatory	Standards for plumbing fixtures and fittings	5.303.6		N/A		
Mandatory	Outdoor potable water use in landscape areas (with notes)	5.304.1		N/A		

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DIVISION 5.5 Environmental Quality

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Life Cycle Assessment, Scope, Whole building life cycle assessment with Notes, Building components, Reference study period, and Verification of compliance	5.409.1, 5.409.2, 5.409.2.1, 5.409.2.2 and 5.409.2.3		N/A		
Mandatory	Life Cycle Assessment, Scope, Product GWP compliance – prescriptive path, 5.409.3.1 with Exception and Exception EQUATION, Verification of compliance and Product GWP Limits Table with Footnotes	5.409.1, 5.409.3, 5.409.3.1, 5.409.3.2 and Table 5.409.3		N/A		
Mandatory	Recycling by occupants (with exception)	5.410.1		N/A		
Mandatory	Recycling by occupants: additions (with exception)	5.410.1.1		N/A		
Mandatory	Recycling by occupants: sample ordinance	5.410.1.2		N/A		
Mandatory	Commissioning new buildings (≥ 10,000 sf) [N]	5.410.2		N/A		
Mandatory	Owner's or owner representative's Project Requirements (OPR) [N]	5.410.2.1		N/A		
Mandatory	Basis of Design (BOD) [N]	5.410.2.2		N/A		
Mandatory	Commissioning plan [N]	5.410.2.3	Y			Specification 01 91 00
Mandatory	Functional performance testing [N]	5.410.2.4	Y			Specification 01 91 00
Mandatory	Documentation and training [N]	5.410.2.5	Y			Specification 01 79 00
Mandatory	Systems manual [N]	5.410.2.5.1	Y			Specification 01 77 00
Mandatory	Systems operation training [N]	5.410.2.5.2	Y			Specification 01 79 00

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Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Commissioning report [N]	5.410.2.6	Y			Specification 01 91 00
Mandatory	Testing and adjusting for new buildings < 10,000 sf or new systems that serve additions or alterations [A]	5.410.4		N/A		
Mandatory	System testing plan for renewable energy, landscape irrigation and water reuse [A]	5.410.4.2		N/A		
Mandatory	Procedures for testing and adjusting	5.410.4.3	Y			SECTION 23 06 00 para 3.02
Mandatory	Procedures for HVAC balancing	5.410.4.3.1	Y			SECTION 23 06 00 para 3.02
Mandatory	Reporting for testing and adjusting	5.410.4.4	Y			SECTION 23 06 00 para 3.02
Mandatory	Operation and maintenance (O&M) manual	5.410.4.5	Y			SECTION 23 00 50 para 3.18
Mandatory	Inspection and reports	5.410.4.5.1	Y			SECTION 23 00 50 para 3.02

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DIVISION 5.4 Material Conservation and Resource Efficiency

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Weather protection	5.407.1		N/A		
Mandatory	Moisture control: sprinklers	5.407.2.1		N/A		
Mandatory	Moisture control: exterior door protection	5.407.2.2.1		N/A		
Mandatory	Moisture control: flashing	5.407.2.2.2		N/A		
Mandatory	Construction waste management—comply with either: Sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance	5.408.1.1, 5.408.1.2, 5.408.1.3	Y			SECTION 01 74 19
Mandatory	Construction waste management: documentation	5.408.1.4	Y			SECTION 01 74 19
Mandatory	Universal waste [A]	5.408.2		N/A		
Mandatory	Excavated soil and land clearing debris (100% reuse or recycle) with Exception and Notes	5.408.3		N/A		

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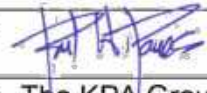
Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
	OR independently	OR				
	Power Allocation Method: Section 5.106.5.3.6 and associated Table 5.106.5.3.6	5.106.5.3.3, 5.106.5.3.4, 5.106.5.3.5, 5.106.5.3.6, Table 5.106.5.3.6, 5.106.5.3.6.1, 5.106.5.3.6.2, and 5.106.5.3.6.3				
Mandatory	Additions or Alterations to existing buildings or parking facilities [A] with Exceptions	5.106.5.4		N/A		
Mandatory	Existing buildings or parking areas without previously installed EV capable infrastructure [A].	5.106.5.4.1		N/A		
Mandatory	Existing buildings or parking areas with previously installed EV capable infrastructure [A].	5.106.5.4.2		N/A		
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty [N]	5.106.5.5		N/A		
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces [N]	5.106.5.5.1		N/A		
Mandatory	TABLE 5.106.5.5.1	5.106.5.5 and 5.106.5.5.1		N/A		
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8 through 5.106.8.2		N/A		
Mandatory	Grading and paving (exception for additions and alterations not altering the drainage path)	5.106.10		N/A		

2

2 OF 8

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Aerosol paints and coatings	5.504.4.3.1		N/A		
Mandatory	Aerosol paints and coatings: verification	5.504.4.3.2		N/A		
Mandatory	Carpet systems	5.504.4.4		N/A		
Mandatory	Carpet cushion	5.504.4.4.1		N/A		
Mandatory	Carpet adhesives per Table 5.504.4.1	5.504.4.4.2		N/A		
Mandatory	Composite wood products	5.504.4.5		N/A		
Mandatory	Composite wood products: documentation	5.504.4.5.3		N/A		
Mandatory	Resilient flooring systems	5.504.4.6		N/A		
Mandatory	Resilient flooring: verification of compliance	5.504.4.6.1		N/A		
Mandatory	Thermal insulation	5.504.4.7		N/A		
Mandatory	Verification of compliance	5.504.4.7.1		N/A		
Mandatory	Acoustical ceilings and wall panels	5.504.4.8		N/A		
Mandatory	Verification of compliance	5.504.4.8.1		N/A		
Mandatory	Filters (with exceptions)	5.504.5	Y			M0.01 SECTION DIV. 23
Mandatory	Filters: labeling	5.504.5.1	Y			SECTION DIV. 23
Mandatory	Environmental tobacco smoke (ETS) control	5.504.7		N/A		
Mandatory	Indoor moisture control	5.505.1		N/A		
Mandatory	Outside air delivery	5.506.1	Y			M0.01 SECTION DIV. 23
Mandatory	Carbon dioxide (CO ₂) monitoring	5.506.2	Y			M0.04B SECTION DIV. 23
Mandatory	Carbon dioxide (CO ₂) monitoring in classrooms	5.506.3	Y			M0.04B SECTION DIV. 23
Mandatory	Acoustical control (with exception)	5.507.4		N/A		

Requirement	SECTION TITLE	CODE SECTION	Y	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Exterior noise transmission, prescriptive method (with exceptions)	5.507.4.1		N/A		
Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1		N/A		
Mandatory	Performance method	5.507.4.2		N/A		
Mandatory	Site features	5.507.4.2.1		N/A		
Mandatory	Documentation of compliance	5.507.4.2.2		N/A		
Mandatory	Interior sound transmission (with note)	5.507.4.3		N/A		
Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1		N/A		
Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1		N/A		
Mandatory	Halons	5.508.1.2		N/A		
Mandatory	Supermarket refrigerant leak reduction for retail food stores 8,000 square feet or more	5.508.2 through 5.508.2.6.3		N/A		
	END OF MANDATORY PROVISIONS					

Documentation Author's / Responsible Designer's Declaration Statement X Mandatory: I attest that this mandatory provisions checklist is accurate and complete.	
Signature: 	Date: 3/20/2026
Company: The KPA Group, LLC	License: C-29713
Address: 1840 Fourth Street, Second Floor	Phone:
City/State/Zip: Livermore, CA 94550	



Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

CALGREEN CHECKLIST

Sheet Number:

TYPICAL CLASSROOM PHOTOS

HVAC ACCESS PANEL



HVAC



HVAC



HVAC ACCESS



HVAC ACCESS



TYPICAL LIGHTING



TYPICAL LIGHTING



REGISTER



RETURN



ROOFTOP



ADMINISTRATION PHOTOS

COMPRESSOR



DUCTING



ELECTRICAL ROOM EXTERIOR



CEILING



RETURN



PENDANT LIGHT



KITCHEN CEILING



EXTERIOR EXHAUST



ATTIC



SITE PHOTOS

CONTRACTOR STAGING AREA



EXTERIOR WALL MOUNTED LIGHT



FLOOD LIGHT



DRIVEWAY ACCESS



Revisions:

APN Number: 055-363-330
City Project Number: CFB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:
CHILD DEVELOPMENT SITE PHOTOS

Sheet Number:

A001



LEGEND:

* APPROX. LOCATION OF EXTERIOR POLE LIGHTS

KEYED NOTES:

① CONTRACTOR STAGING AREA, LOCATION TO BE CONFIRMED AND APPROVED BY THE CITY OF MENLO PART PRIOR TO CONSTRUCTION.



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

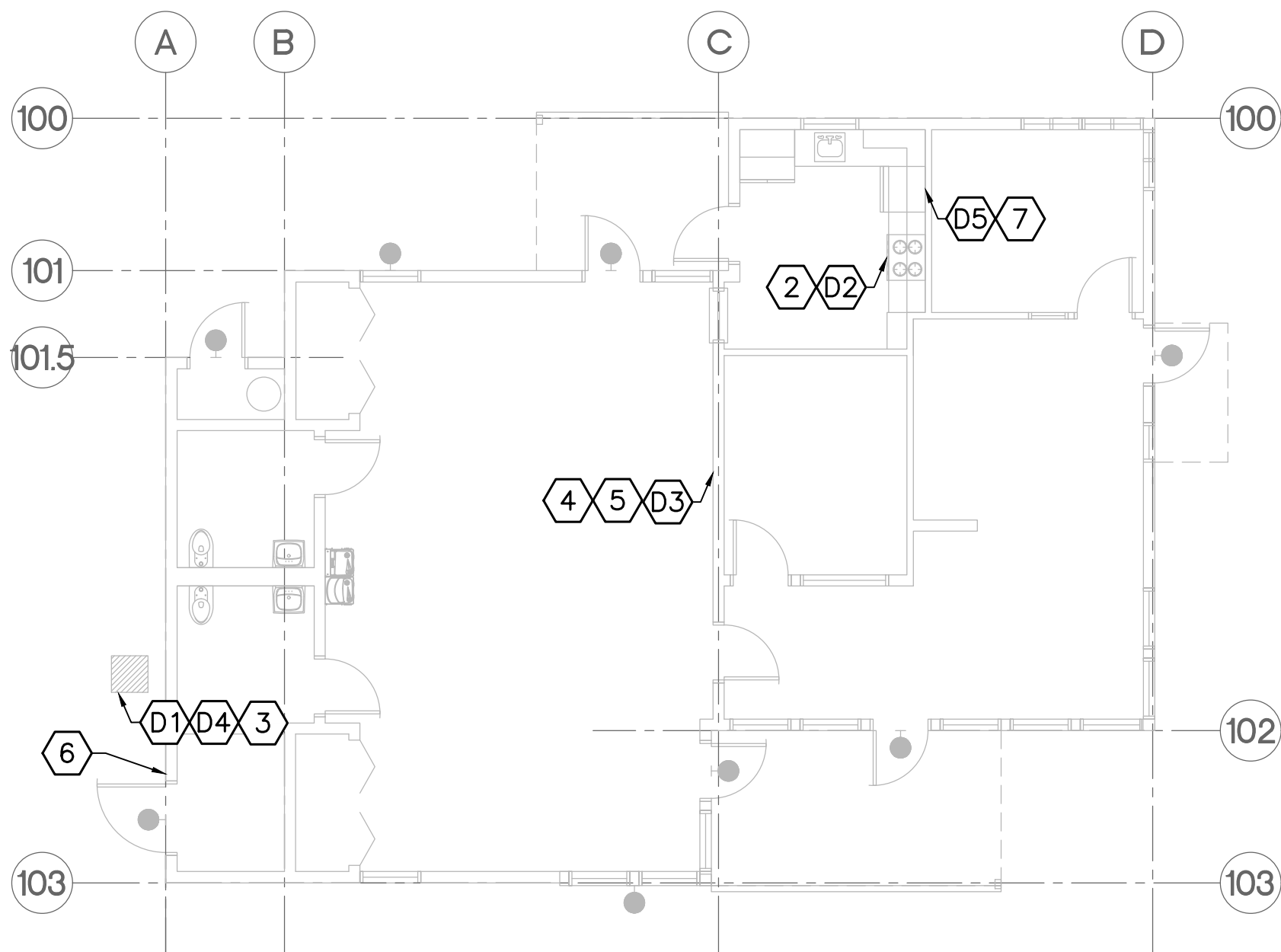
APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

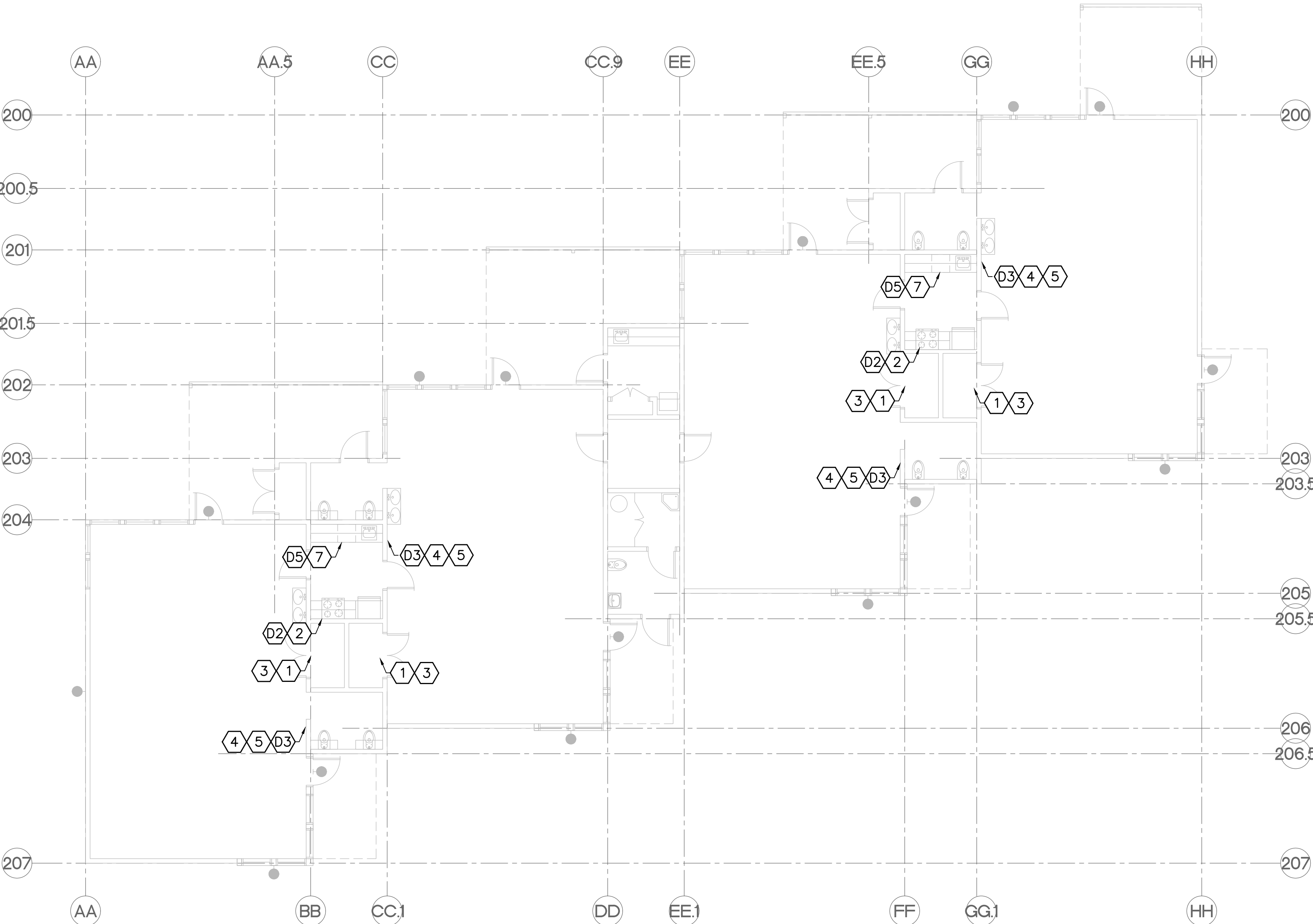
SITE PLAN

Sheet Number:

A002



PLAN NORTH
1
1/8" = 1'-0"
0 4' 8' 16'



PLAN NORTH
2
1/8" = 1'-0"
0 4' 8' 16'

GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
2. REMOVE OR RELOCATE ALL ITEMS REQUIRED TO COMPLETE NEW CONSTRUCTION. EXISTING EQUIPMENT, FIXTURES, FURNITURE, FLEXIBLE DUCT, ELECTRICAL RACEWAYS, LIGHTS, AND OTHER DEVICES WITHIN AREAS OF NEW CONSTRUCTION EXIST AND MAY NOT BE DIRECTLY SHOWN ON THESE DOCUMENTS.
3. NOT ALL ITEMS OF REQUIRED DEMOLITION ARE NOTED TO PREPARE THE BUILDING FOR NEW WORK. DEMOLISH AS REQUIRED FOR NEW WORK.
4. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION REQUIRED.
5. CAP EXISTING GAS LINE SERVING REMOVED EQUIPMENT AT THE NEAREST ACTIVE BRANCH. VERIFY GAS IS SHUT OFF PRIOR TO DEMOLITION. ALL ABANDONED GAS PIPING SHALL BE CAPPED GAS-TIGHT, TESTED, AND LABELED "ABANDONED" IN ACCORDANCE WITH LOCAL CODE AND UTILITY REQUIREMENT.
6. UPON COMPLETION OF ALL INTERIOR GAS DISCONNECTIONS, THE GAS MAIN SHALL BE CAPPED IMMEDIATELY DOWNSTREAM OF THE GAS METER. CITY SHALL COORDINATE DISCONNECTION OF SERVICE AND REMOVAL OF THE GAS METER WITH THE UTILITY OPERATOR.
7. INTERIOR HVAC ACCESS, LOCATION AND SIZE MAY VARY, ENLARGE OPENING AS REQUIRED, IF REQUIRED, FOR EQUIPMENT AND PERSONNEL ACCESS. RESTORE ACCESS TO ORIGINAL CONDITION WITH NEW MATERIALS, PATCH AND PAINT.
8. PRIOR TO REMOVAL OF EXISTING HVAC COMPONENTS, RECOVER REFRIGERANT AND RECYCLE OR DISPOSE OF AS REQUIRED BY LAW. SEE MEP PLANS FOR MORE INFORMATION.
9. CONTRACTOR TO PROVIDE HVAC BUILDING MANAGEMENT SYSTEM AND CONTROLS COMPATIBLE WITH CITY'S EXISTING BUILDING MANAGEMENT SYSTEM, INCLUDING NEW LOCAL AIR QUALITY SENSOR TO ALLOW HVAC SYSTEM TO AUTOMATICALLY ENTER "SMOKE MODE" AND REDUCE OR ELIMINATE OUTSIDE USE. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
10. (TYP) PROVIDE NEW EXTERIOR WALL MOUNTED AND POLE MOUNTED LIGHTING FIXTURES. SEE ELECTRICAL PLANS FOR DETAILS.

DEMOLITION NOTES:

- 01 DEMOLISH EXISTING CONDENSER UNITS (1), SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION
- 02 REMOVE (E) RANGE, REFER TO MECHANICAL / ELECTRICAL PLANS FOR MORE INFORMATION.
- 03 REMOVE EXISTING THERMOSTAT (TYP)
- 04 REMOVE EXISTING REFRIGERANT LINE SET.
- 05 REMOVE EXISTING DISHWASHER

KEYED NOTES:

- 1 MODIFY (E) INTERIOR HVAC ACCESS PANELS AS NEEDED FOR INSTALLATION OF NEW EQUIPMENT AND EQUIPMENT MAINTENANCE. INSTALL NEW PANEL DOORS AND RESTORE WALL WITH NEW MATERIALS, PATCH AND PAINT TO MATCH.
- 2 FURNISH AND INSTALL NEW KITCHENAID MODEL NO. KSIS730PSS, 30" INDUCTION RANGE, OR APPROVED EQUAL. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 3 FURNISH AND INSTALL HVAC EQUIPMENT AND ACCESSORIES. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 4 FURNISH AND INSTALL NEW THERMOSTAT
- 5 FURNISH AND INSTALL NEW HVAC CONTROL SYSTEM, EQUIPMENT, AND ACCESSORIES. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 6 FURNISH AND INSTALL MINI SPLIT SYSTEM IN IT/ELECTRICAL ROOM. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION. (ADD ITEM A1)
- 7 FURNISH AND INSTALL NEW KITCHENAID MODEL NO. KDTF324PPA DISHWASHER, OR APPROVED EQUAL

Revisions:

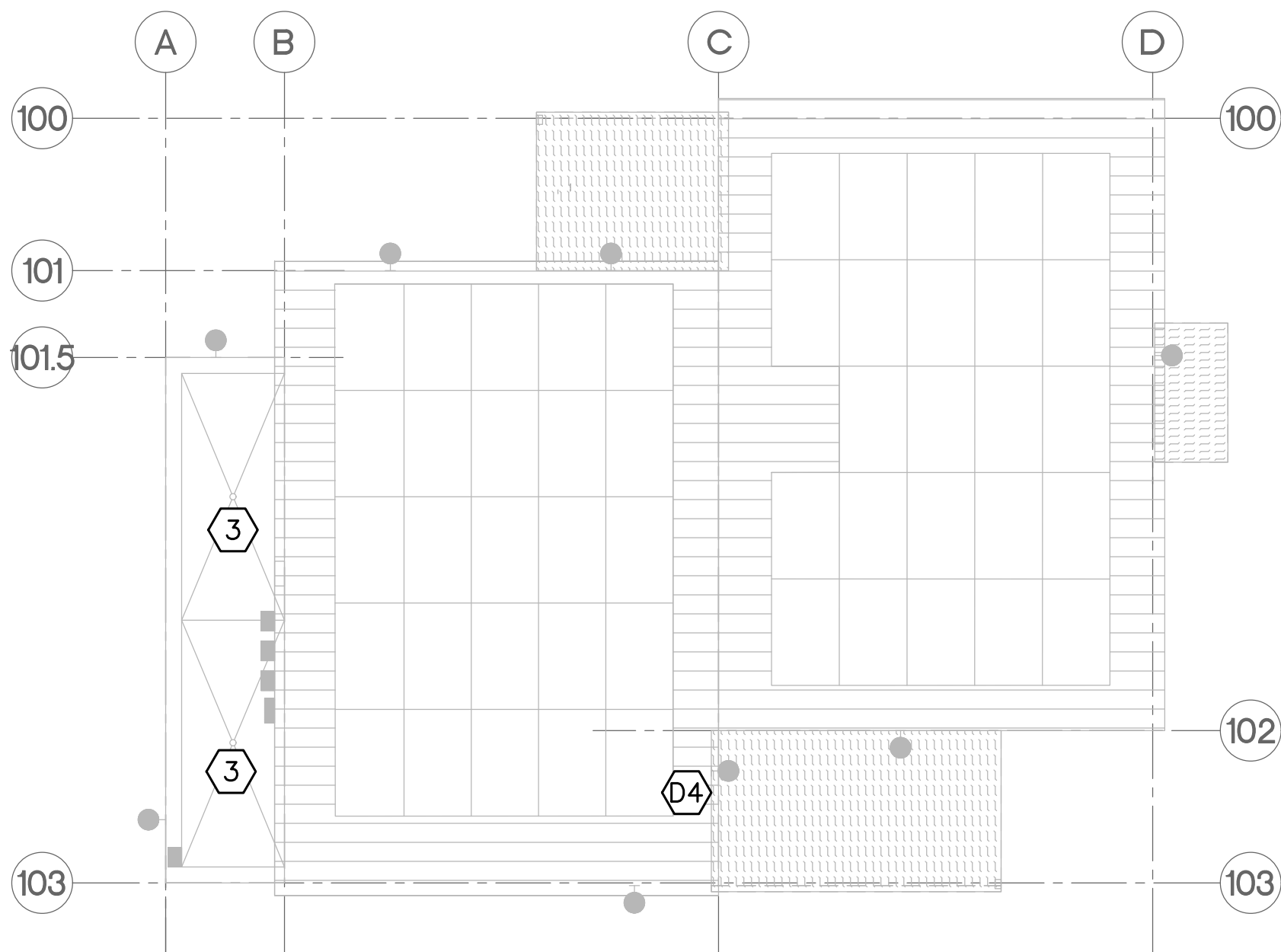
APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

FLOOR PLAN

Sheet Number:

A101



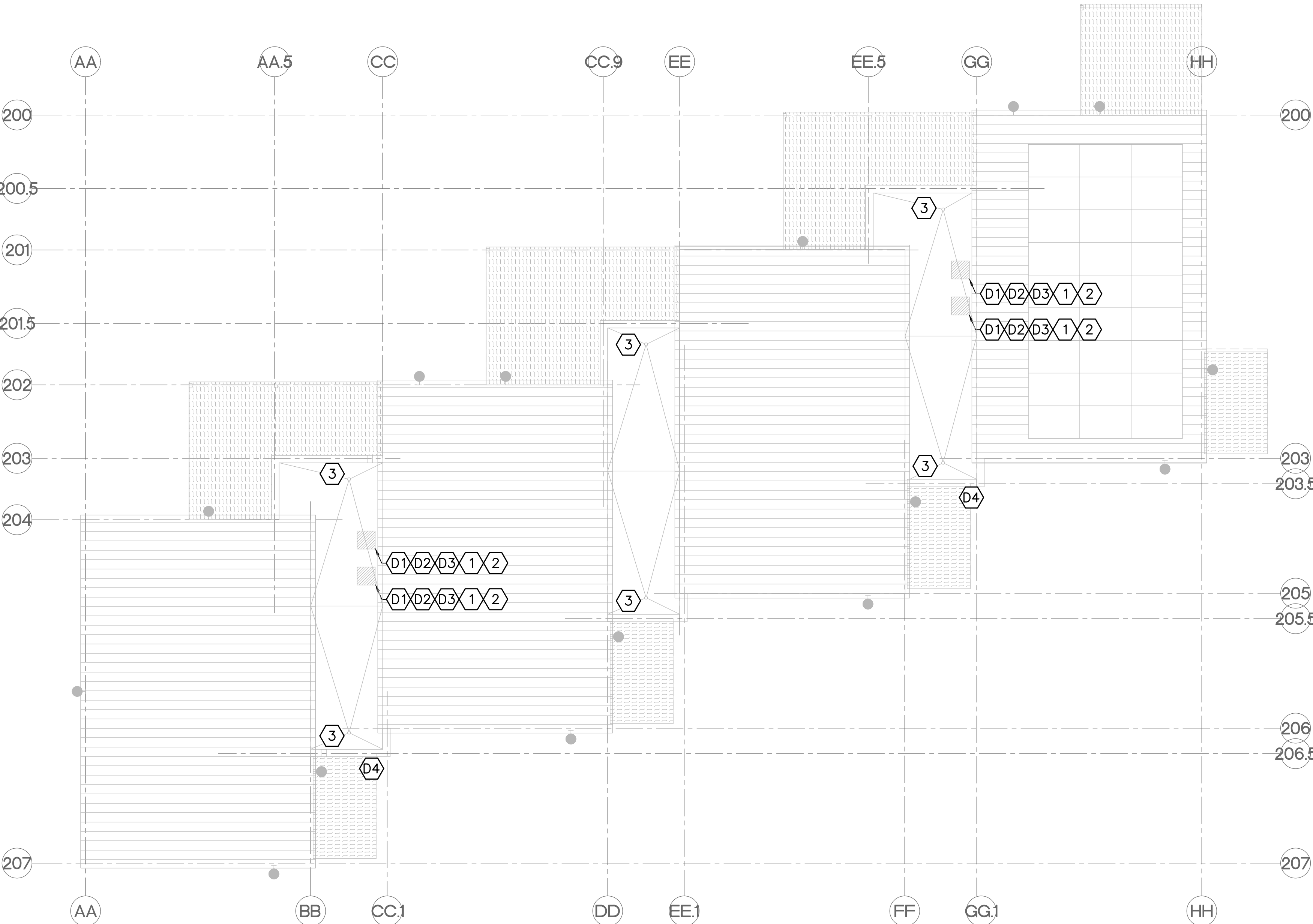
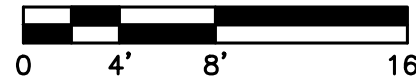
PLAN
NORTH



1

ADMIN BUILDING ROOF PLAN

1/8" = 1'-0"



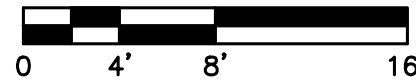
PLAN
NORTH



2

CLASSROOM ROOF PLAN

1/8" = 1'-0"



GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
2. REMOVE OR RELOCATE ALL ITEMS REQUIRED TO COMPLETE NEW CONSTRUCTION. EXISTING EQUIPMENT, FIXTURES, FURNITURE, FLEXIBLE DUCT, ELECTRICAL RACEWAYS, LIGHTS, AND OTHER DEVICES WITHIN AREAS OF NEW CONSTRUCTION EXIST AND MAY NOT BE DIRECTLY SHOWN ON THESE DOCUMENTS.
3. NOT ALL ITEMS OF REQUIRED DEMOLITION ARE NOTED TO PREPARE THE BUILDING FOR NEW WORK. DEMOLISH AS REQUIRED FOR NEW WORK.
4. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION REQUIRED.
5. CAP EXISTING GAS LINE SERVING REMOVED EQUIPMENT AT THE NEAREST ACTIVE BRANCH. VERIFY GAS IS SHUT OFF PRIOR TO DEMOLITION. ALL ABANDONED GAS PIPING SHALL BE CAPPED GAS-TIGHT, TESTED, AND LABELED "ABANDONED" IN ACCORDANCE WITH LOCAL CODE AND UTILITY REQUIREMENT. NOTIFY EOR WHEN ALL GAS LATERALS HAVE BEEN CAPPED..
6. INTERIOR HVAC ACCESS, LOCATION AND SIZE MAY VARY, ENLARGE OPENING AS REQUIRED, IF REQUIRED, FOR EQUIPMENT AND PERSONNEL ACCESS. RESTORE ACCESS TO ORIGINAL CONDITION WITH NEW MATERIALS, PATCH AND PAINT.
7. PRIOR TO REMOVAL OF EXISTING HVAC COMPONENTS, RECOVER REFRIGERANT AND RECYCLE OR DISPOSE OF AS REQUIRED BY LAW. SEE MEP PLANS FOR MORE INFORMATION.

DEMOLITION NOTES:

- D1 DEMOLISH EXISTING ROOFTOP CONDENSER UNITS (4), SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION
- D2 REMOVE EXISTING REFRIGERANT LINE SET SERVING DEMOLISHED HVAC EQUIPMENT.
- D3 REMOVE EXISTING HVAC EXHAUST FLUES.
- D4 SELECTIVE DEMOLITION AS REQUIRED FOR INSTALLATION OF NEW OUTSIDE AIR INTAKE, SEE MECHANICAL DRAWING FOR MORE INFORMATION.

KEYED NOTES:

- 1 FURNISH AND INSTALL HVAC EQUIPMENT AND ACCESSORIES, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 2 REPAIR ROOF AND ROOF MEMBRANE AT ALL EXISTING PENETRATIONS. INSURE ALL REPAIRED PENETRATIONS AND NEW PENETRATIONS ARE WATER TIGHT.
- 3 PROTECT EXISTING ROOF DRAINS IN PLACE.

LEGEND:

- AWNING
- SHED ROOF
- FLAT ROOF

Revisions:

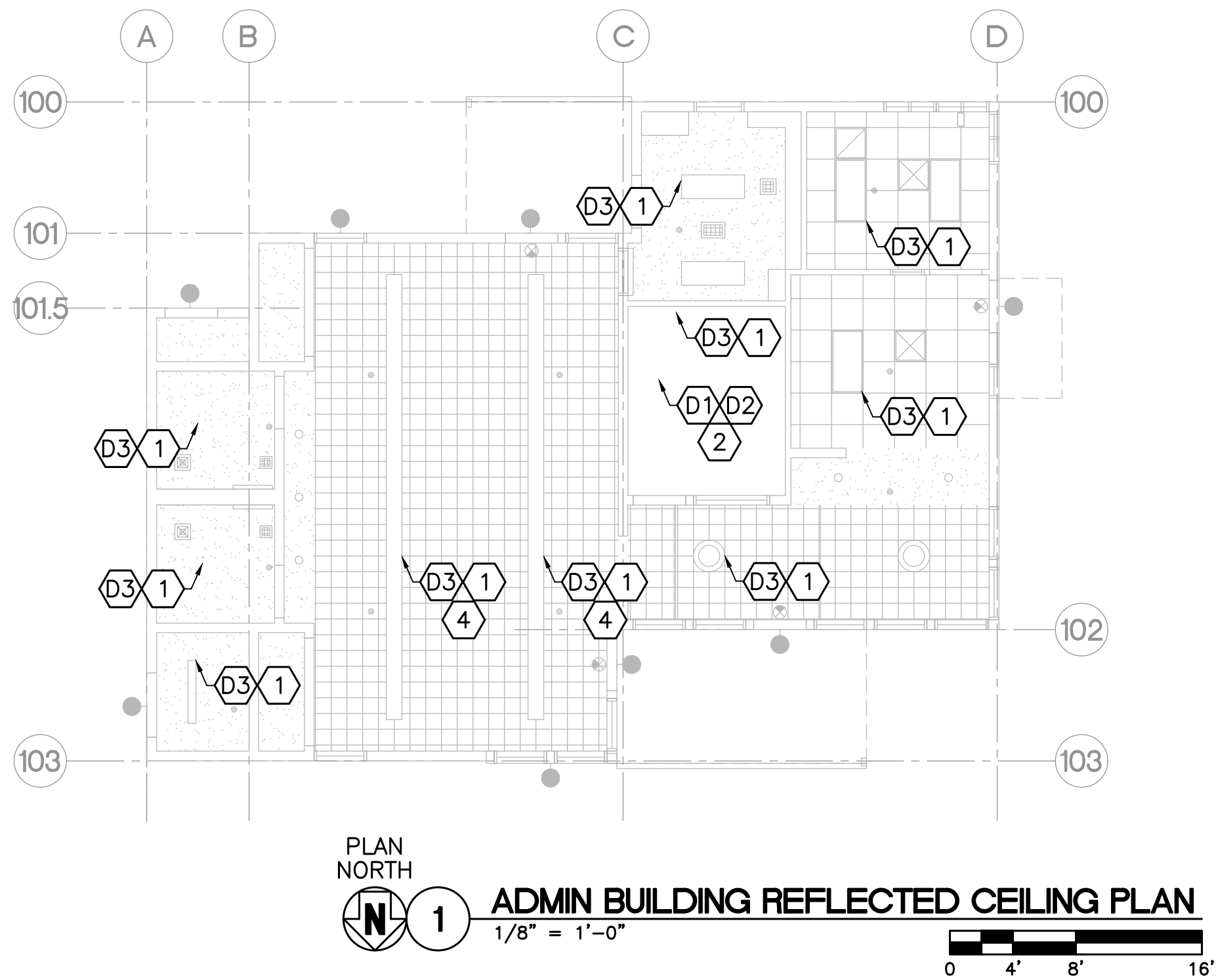
APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

ROOF PLAN

Sheet Number:

A103



GENERAL NOTES:

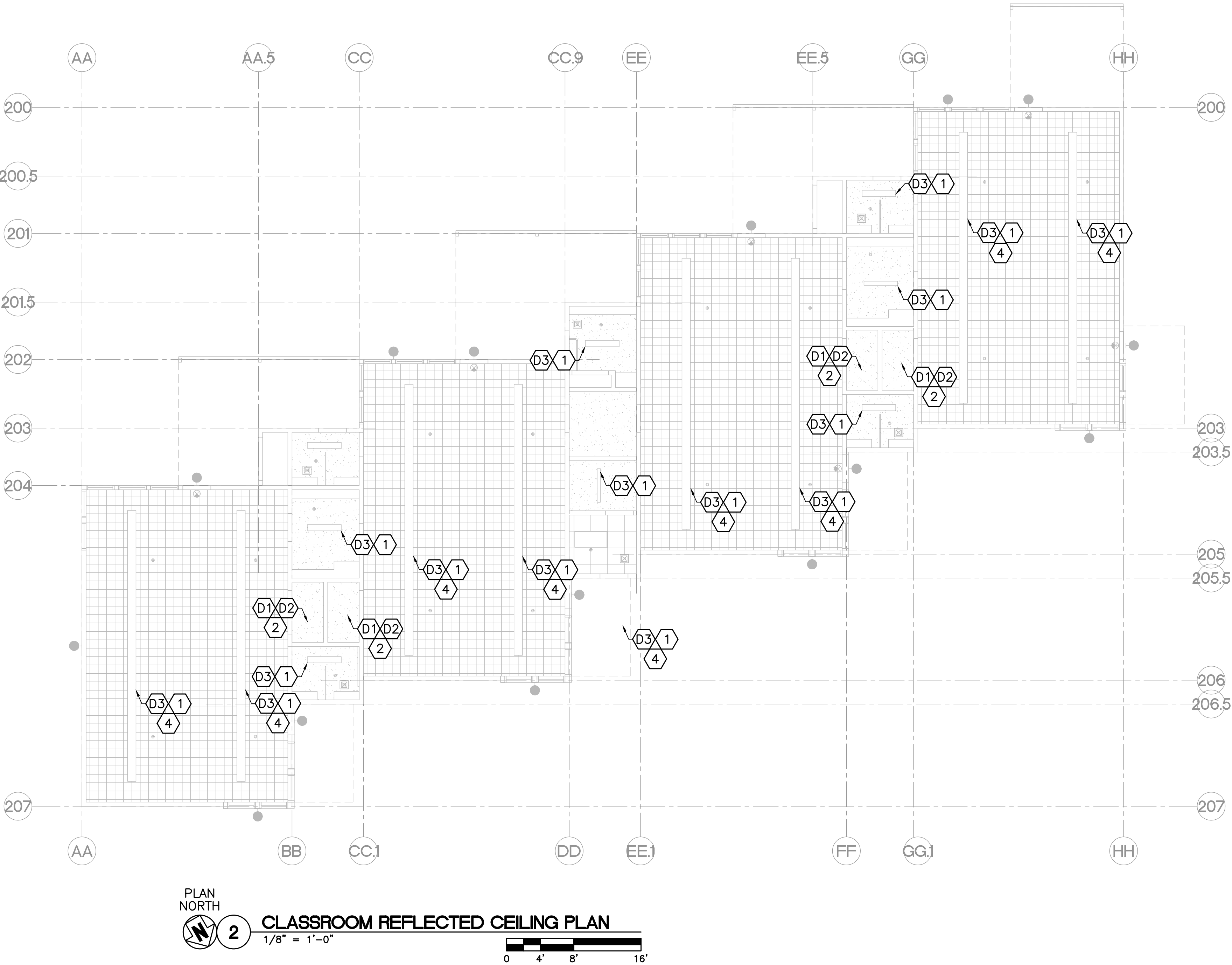
1. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
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3. NOT ALL ITEMS OF REQUIRED DEMOLITION ARE NOTED TO PREPARE THE BUILDING FOR NEW WORK. DEMOLISH AS REQUIRED FOR NEW WORK.
4. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION REQUIRED.
5. CAP EXISTING GAS LINE SERVING REMOVED EQUIPMENT AT THE NEAREST ACTIVE BRANCH. VERIFY GAS IS SHUT OFF PRIOR TO DEMOLITION. ALL ABANDONED GAS PIPING SHALL BE CAPPED GAS-TIGHT, TESTED, AND LABELED "ABANDONED" IN ACCORDANCE WITH LOCAL CODE AND UTILITY REQUIREMENT. NOTIFY EOR WHEN ALL GAS LATERALS HAVE BEEN CAPPED.
6. INTERIOR HVAC ACCESS, LOCATION AND SIZE MAY VARY, ENLARGE OPENING AS REQUIRED, IF REQUIRED, FOR EQUIPMENT AND PERSONNEL ACCESS. RESTORE ACCESS TO ORIGINAL CONDITION WITH NEW MATERIALS, PATCH AND PAINT.
7. PRIOR TO REMOVAL OF EXISTING HVAC COMPONENTS, RECOVER REFRIGERANT AND RECYCLE OR DISPOSE OF AS REQUIRED BY LAW. SEE MEP PLANS FOR MORE INFORMATION.
8. ADMIN BUILDING HVAC EQUIPMENT IS LOCATED ABOVE SUSPENDED CEILING. REMOVE AND SALVAGE CEILING TILES AND FRAMING FOR RE-INSTALLATION.

DEMOLITION NOTES:

- (D1) DEMOLISH EXISTING GAS HVAC UNITS (5), ABOVE CEILING/STORAGE CLOSETS, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION
- (D2) REMOVE EXISTING HVAC EXHAUST FLUE.
- (D3) REMOVE OF EXISTING LIGHTING COMPONENTS AS REQUIRED FOR INSTALLATION OF NEW LED RETROFIT LIGHTING COMPONENTS, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION

KEYED NOTES:

- (1) FURNISH AND INSTALL NEW LED LIGHTING RETROFIT COMPONENTS AND ACCESSORIES, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- (2) FURNISH AND INSTALL NEW HVAC SYSTEM, MODIFY DUCTING AND INSTALL ADDITIONAL DUCTING AS REQUIRED, INSULATE DUCTING, AND ACCESSORIES, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- (3) FURNISH AND INSTALL NEW THERMOSTAT, HVAC CONTROL SYSTEM AND EQUIPMENT, AND ACCESSORIES, SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- (4) ALT-1: FURNISH AND INSTALL NEW LED LIGHTING FIXTURES AND ACCESSORIES. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR MORE INFORMATION.



Revisions:

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City Project Number: CPB025
KPA Project Number: 823.00
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Sheet Title:

REFLECTED CEILING
PLAN

Sheet Number:

A111



Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:
MECHANICAL
TITLE SHEET

Sheet Number:

M0.01

GENERAL MECHANICAL NOTES

- ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2025 CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA BUILDING CODE, NATIONAL FIRE PROTECTION CODES, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING THE 2025 CALIFORNIA ENERGY CONSERVATION STANDARDS OF TITLE 24.
- LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT SUPPORTS ARE DETAILED ON THE STRUCTURAL AND ARCHITECTURAL PLANS.
- PLATFORMS, CURBS AND FLASHING FOR EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS. COORDINATE THE EXACT SIZES OF REQUIRED OPENINGS AND SUPPORT FOR THE FURNISHED EQUIPMENT.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
- ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED, AND TESTED IN ACCORDANCE WITH THE APPLICABLE SMACNA STANDARDS.
- DUCTWORK SHALL BE INSULATED WITH 2" FIBERGLASS INSULATION AND ALL SERVICE JACKET. PROVIDE 1" ACOUSTICAL LINER WHERE SHOWN ON PLANS. DUCT DIMENSIONS ON PLANS ARE NET CLEAR INTERIOR.
- MANUAL DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES AND REGISTERS.
- ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
- PIPES AND DUCTWORK SHALL BE SUPPORTED AND BRACED PER SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS."
- EXPOSED PIPING ALLOWED ONLY WHERE INDICATED. PROVIDE ESCUTCHEONS IN FINISHED AREAS.
- PROVIDE ROUGH-IN AND FINAL CONNECTIONS FOR EQUIPMENT PROVIDED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF EQUIPMENT.
- PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED BY AN APPROVED MATERIAL AS PRESCRIBED IN CBC SECTION 714.
- FIELD VERIFY LOCATION AND SIZE OF ALL EXISTING PIPING, DUCTWORK AND EQUIPMENT PRIOR TO FABRICATION OF ANY NEW WORK.
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36. BOLTS SHALL CONFORM TO ASTM A-307. FABRICATION, ERECTION, WELDING AND PAINTING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS. ALL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED.
- ATTACHMENTS OF EQUIPMENT WEIGHING LESS THAN 400 LBS. AND SUPPORTED DIRECTLY FROM THE FLOOR OR ROOF STRUCTURE, FURNITURE OR TEMPORARY OR MOVEABLE EQUIPMENT WEIGHING LESS THAN 20 LBS. THAT IS SUPPORTED BY VIBRATION ISOLATOR DEVICES SUSPENDED FROM THE ROOF, WALL OR FLOOR NEED NOT BE DETAILED ON THE PLANS (CCR TITLE 24, PART 2, SECTION 7.125 EXCEPTION). HOWEVER, SUCH EQUIPMENT MUST BE SUPPORTED AND ANCHORED TO RESIST THE FORCES PRESCRIBED PER ASCE-7, CHAPTER 13 AS MODIFIED BY CBC 1613/1615 AND THE ANCHORAGE SHALL BE APPROVED BY THE ENGINEER OF RECORD. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.
- INSULATION MATERIAL SHALL MEET THE STATE QUALITY STANDARD PER SECTION 120.4 OF THE 2022 CALIFORNIA ENERGY CODE (CEC).
- ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF SECTION 120.3 AND TABLE 120.3.A.
- ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTIONS 112 AND 122 CEC.
- ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS OF SECTIONS 111-113, 115, AND 120-129 CEC.
- CONTRACTOR SHALL VERIFY THE INSTALLATION COMPLIES WITH THE MANUFACTURER'S REQUIREMENTS BY UPDATING THE MANUFACTURER'S SOFTWARE MODEL TO ACCOUNT FOR ACTUAL FIELD LAYOUT, PIPE LENGTHS AND QUANTITY OF FITTINGS. ADVISE MEOR OF ANY ISSUE PRIOR TO STARTING THE INSTALLATION.
- MC SHALL PROVIDE CONCRETE INSERTS FOR HANGING EQUIPMENT, COORD. W. GC.
- CONTRACTOR TO PROVIDE HVAC BUILDING MANAGEMENT AND CONTROLS COMPATIBLE WITH CITY'S EXISTING BUILDING MANAGEMENT SYSTEM INCLUDING PRESENCE OF LOCAL AIR QUALITY SENSOR TO ALLOW HVAC SYSTEM TO AUTOMATICALLY ENTER "SMOKE MODE" AND REDUCE OR ELIMINATE OUTSIDE AIR USE.

SYMBOLS & ABBREVIATIONS (MECHANICAL)

	BYPASS TIMER	EC	ELECTRICAL CONTRACTOR
	CENTER LINE	EDB	ENTERING DRY BULB
	CONDENSATE DRAIN	EOD	EXTENT OF DEMOLITION
	DIAMETER	ETR	EXISTING TO REMAIN
	EXHAUST, RETURN, SUPPLY AIR DUCT (EXISTING)	EWB	ENTERING WET BULB
	EXHAUST, RETURN, SUPPLY AIR DUCT (NEW)	EWTF	ENTERING WATER TEMPERATURE DEGREES FAHRENHEIT
	EXTENT OF DEMOLITION	FC	FLEXIBLE CONNECTION
	EXHAUST DUCT UP, DOWN, PENE & DEMO	FD	FIRE DAMPER
	FIRE/SMOKE DAMPER	FLA	FULL LOAD AMPS
	FIRE DAMPER	FSD	FIRE SMOKE DAMPER
	POINT OF CONNECTION	FT.HD.	FEET HEAD
	P/T PLUG	FTR	FLUE THRU ROOF
	RETURN OR EXHAUST AIR	GC	GENERAL CONTRACTOR
	RETURN DUCT UP, DOWN, PENE & DEMO	GPM	GALLONS PER MINUTE
	SPEED CONTROL SWITCH	HP	HORSE POWER
	SPIN-IN EXTRACTOR/DAMPER	KW	KILOWATTS
	SUPPLY DUCT UP, DOWN, PENE & DEMO	LBS	POUNDS
	SUPPLY OR OUTSIDE AIR	LWT	LEAVING WATER TEMPERATURE
	THERMOSTAT at + 48°	MBH	1,000 BTU/HR
	TO BE REMOVED	MC	MECHANICAL CONTRACTOR
	TRANSFER AIR	(N)	NEW
	TURNING VANES	NIC	NOT IN CONTRACT
	VOLUME DAMPER	NTS	NOT TO SCALE
		OBDD	OPPOSED BLADE DAMPER
		OSA	OUTSIDE AIR
		PC	PLUMBING CONTRACTOR
		PENE	PENETRATION
		PD	PRESSURE DROP
		PH	PHASE
		POC	POINT OF CONNECTION
		P/N	PART NUMBER
		PRV	PRESSURE REDUCING VALVE
		PSI	POUNDS PER SQUARE INCH
		P/T	PRESSURE / TEMPERATURE
		RA	RETURN AIR
		RAD	RETURN AIR DUCT
		(RL)	RELOCATE
		RPM	REVOLUTIONS PER MINUTE
		SA	SUPPLY AIR
		SAD	SUPPLY AIR DUCT
		SD	SUPPLY DIFFUSER
		SP	STATIC PRESSURE
		SS	STAINLESS STEEL
		STD	STANDARD
		TV	TURNING VANES
		TYP	TYPICAL
		UCD	UNDERCUT DOOR
		UON	UNLESS OTHERWISE NOTED
		V	VOLT
		VD	VOLUME DAMPER
		VIF	VERIFY IN FIELD
		W/	WITH
		WC	WATER COLUMN
		WT	WEIGHT
		W/O	WITH OUT
AD	ACCESS DOOR		
AFF	ABOVE FINISH FLOOR		
AL	ACOUSTICALLY LINED		
AP	ACCESS PANEL		
BD	BALANCING DAMPER		
BDD	BACKDRAFT DAMPER		
BHP	BRAKE HORSE POWER		
BJ	BETWEEN JOIST		
BTU	BRITISH THERMAL UNIT		
C.	CONDUIT		
CA	COMBUSTION AIR		
CD	CONDENSATE DRAIN		
CFM	CUBIC FEET PER MINUTE		
DEMO	DEMOLITION		
CHWS	CHILLED WATER SUPPLY		
CHWR	CHILLED WATER RETURN		
DL	DOOR LOUVER		
(E)	EXISTING		
EAD	EXHAUST AIR DUCT		

LOUVER SCHEDULE

CODE	LOCATION	HEIGHT	WIDTH	CFM	PRESS. DROP	WT	P/N	MFG.	REMARKS
L-1	SOFFIT WALL	36"	24"	1,500	0.1		ELF375DX	RUSKIN	1
L-2	SOFFIT WALL	36"	24"	1,500	0.1		ELF375DX	RUSKIN	1

NOTES:

- INSTALL LOUVER ON EXTERIOR WALL ABOVE TOILET ROOM IN EXISTING LOUVER LOCATION. COORDINATE WITH ARCHITECT

PRESSURE RELIEF VALVE SCHEDULE

CODE	LOCATION	HEIGHT	WIDTH	CFM	PRESS. DROP	P/N	MFG.	REMARKS
PRV-1	CLASSROOM 1	20"	20"	500	0.055	WRH	GREENHECK	1.2.
PRV-2	CLASSROOM 2	20"	20"	500	0.055	WRH	GREENHECK	1.2.
PRV-3	CLASSROOM 3	20"	20"	500	0.055	WRH	GREENHECK	1.2.
PRV-4	CLASSROOM 4	20"	20"	500	0.055	WRH	GREENHECK	1.2.
PRV-5	MULTI-PURPOSE	20"	20"	500	0.055	WRH	GREENHECK	1.2.

NOTES:

- INSTALL ON ROOF OF CLASSROOMS AND MULTIPURPOSE ROOM.
- PROVIDE PROPER SEALING OF ROOF AND CEILING.

ECONOMIZER SCHEDULE

MARK	DESCRIPTION	LOCATION	CONTROL	WEIGHT (LBS)	HEIGHT (IN)	PART NO.	MFG	REMARKS
ECON-1	CLASSROOM 1 ECONOMIZER	ABOVE STORAGE	BAS	95	21	MBFXTQTA4248	RUSKIN	1
ECON-2	CLASSROOM 2 ECONOMIZER	ABOVE STORAGE	BAS	95	21	MBFXTQTA4248	RUSKIN	1
ECON-3	CLASSROOM 3 ECONOMIZER	ABOVE STORAGE	BAS	95	21	MBFXTQTA4248	RUSKIN	1
ECON-4	CLASSROOM 4 ECONOMIZER	ABOVE STORAGE	BAS	95	21	MBFXTQTA4248	RUSKIN	1
ECON-5	ADMIN ECONOMIZER	ADMIN ATTIC	BAS	104	24	MBFXTQTA5460	RUSKIN	1

NOTES:

- REFER TO CONTROLS DRAWINGS FOR INTEGRATION

VRF / MINISPLIT INDOOR UNIT SCHEDULE

VRF / MINISPLIT INDOOR UNIT SCHEDULE																						
MARK	DESCRIPTION	LOCATION	AREA SERVES	DCV	NOM TONS	CAPACITY (BTU/H)		CFM	MIN DCV	MIN OSA	ESP (IN)	ELECT				CONTROL	SOUND dBA	WEIGHT (LBS)	SIZE (IN)	PART NO.	MFG	REMARKS
						COOLING	HEATING					MCA	MOCP	V/PH								
IU-1	CLASSROOM VRV INDOOR	ABOVE STORAGE	CLASSROOM 1	YES	4	48,122	51,743	1,520	150	405	0.90	6.50	15.00	208/1	THEROMSTAT	54/46	143	54 X 21 X 21	FXTA48AAVJUA	DAIKIN	1.2.,3.,4.,5.,6.	
IU-2	CLASSROOM VRV INDOOR	ABOVE STORAGE	CLASSROOM 2	YES	4	48,122	51,743	1,520	150	405	0.90	6.50	15.00	208/1	THERMASTAT	54/46	143	54 X 21 X 21	FXTA48AAVJUA	DAIKIN	1.2.,3.,4.,5.,6.	
IU-3	CLASSROOM VRV INDOOR	ABOVE STORAGE	CLASSROOM 3	YES	4	48,122	51,743	1,520	150	405	0.90	6.50	15.00	208/1	THERMOSTAT	54/46	143	54 X 21 X 21	FXTA48AAVJUA	DAIKIN	1.2.,3.,4.,5.,6.	
IU-4	CLASSROOM VRV INDOOR	ABOVE STORAGE	CLASSROOM 4	YES	4	48,122	51,743	1,520	150	405	0.90	6.50	15.00	208/1	THERMOSTAT	54/46	143	54 X 21 X 21	FXTA48AAVJUA	DAIKIN	1.2.,3.,4.,5.,6.	
IU-5	ADMIN VRV INDOOR	ATTIC	ADMIN BUILDING	YES	5	60,000	66,000	1,800	150	405	0.90	8.5	14.00	208/1	THERMOSTAT	50/43	163	57 X 24.5 X 21	FXTA60AAVJUA	DAIKIN	1.2.,3.,4.,5.,6.	
IU-6	WALL MOUNT MINISPLIT	ELEC/IT	ADMIN BUILDING	NO	0.75	9,000	-	272	-	-	-	POWERED BY OU-6			THERMOSTAT	35.00	19	11.25 X 31 X 9	FTKF09BVJU9	DAIKIN	7.8.	

NOTES:

- FILTER BOX (2" MERV 14 OR 15)
- MIXING BOX WITH RELAY AND COMMUNICATING ACTUATOR. RUSKIN: MBFXTQTA. REFER TO CONTROLS DRAWINGS.
- CONDENSATE DRAIN PUMP, THERMOSTAT, 2" DEFLECTION SPRING ISOLATION MOUNTING, SWAY BRACING.
- WIRED REMOTE CONTROLLER.
- SECONDARY DRAIN PAN WITH WATER DETECTOR WIRED TO STOP UNIT OPERATION.
- MINIMUM DCV OSA TURNED DOWN TO 150 CFM WHEN CO2 IS BELOW SETPOINT.
- INSTALL WALL MOUNT ON LEFT SIDE OF BACK WALL. ROUTE REFRIGERANT AND CONDENSATE DRAIN LINES UP TO ROOF.
- INSTALL CONDENSATE DRAIN PUMP.

VRF / MINISPLIT OUTDOOR UNIT SCHEDULE

MARK	DESCRIPTION	LOCATION	NOMINAL TONS	CAPACITY (BTU/H)		MCA	MOCP	ELECT V/PH	EER2	REFRIGERANT	LBS. REFR	SMALLEST	PERCENTAGE	PASS TEST	CONTROL	WEIGHT (LBS)	SIZE (IN)	PART NUMBER	MFG	REMARKS
				COOLING	HEATING															
OU-1	CLASSROOM VRV OUTDOOR	CLASSROOM 1 ROOF	4	45,000	46,000	29	30	208/1	9	R-32	7.5	11,570	0.648228176	YES	THERMOSTAT	234	35 X 44 X 18	RXTA48AAVJU	DAIKIN	1.2.
OU-2	CLASSROOM VRV OUTDOOR	CLASSROOM 1 ROOF	4	45,000	46,000	29	30	208/1	9	R-32	7.5	11,570	0.648228176	YES	THERMOSTAT	234	35 X 44 X 18	RXTA48AAVJU	DAIKIN	1.2.
OU-3	CLASSROOM VRV OUTDOOR	CLASSROOM 3 ROOF	4	45,000	46,000	29	30	208/1	9	R-32	7.5	11,570	0.648228176	YES	THERMOSTAT	234	35 X 44 X 18	RXTA48AAVJU	DAIKIN	1.2.
OU-4	CLASSROOM VRV OUTDOOR	CLASSROOM 3 ROOF	4	45,000	46,000	29	30	208/1	9	R-32	7.5	11,570	0.648228176	YES	THERMOSTAT	234	35 X 44 X 18	RXTA48AAVJU	DAIKIN	1.2.
OU-5	ADMIN VRV OUTDOOR	GROUND	5	57,500	57,000	34.5	34	208/0	7.50	R-32	7.50	11,570	0.648228176	YES	THERMOSTAT	233	34 X 44 X 18	RXTA60AAVJU	DAIKIN	1.2.
OU-6	OUTDOOR MINISPLIT	GROUND	0.75	9,000	-	11.6	15	208/1	8.50	R-32	1.65	352	4.6875	YES	THERMOSTAT	63	22 X 27 X 11	RKF09BVJU9	DAIKIN	1.2.

NOTES:

- RUBBER VIBRATION ISOLATORS, SERVICE VALVES, FILTER, DRYER, DISCONNECT, CONDENSATE DRAIN PAN PIPED TO SAFE DISCHARGE, SEA COAST COATING
- VERIFY TOTAL REFRIGERANT CHARGE AND COMPLIANCE WITH REFRIGERANT CONCENTRATION PER CMC

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This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)(2) for alterations.

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A. GENERAL INFORMATION

01	Project Location (city)	Menlo Park	04	Total Conditioned Floor Area	5000
02	Climate Zone	3	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	0

Classroom

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, §170.2(b), or §141.0(b)(2) and §180.2(b)(2) for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
☐ Ventilation (including DOAS, ERV, HRV systems)	☐ System Piping	☐ Fan Systems
☐ Mechanical Controls	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
☐ Mechanical Controls (existing to remain, altered or new)	☐ Chillers	
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Mechanical Heat Recovery§140.4(s)

01	02	03	04	05	06	07
Name or Item Tag	Coincident Peak Cooling Load of All High Load Spaces (kBtu/h)	Design Capacity of All Mechanical Cooling Systems² (kBtu/h)	Design Capacity of All Service Water Heating Systems¹ (kBtu/h)	Design Capacity for all space heating systems (kBtu/h)	Simultaneous Mechanical Heat Recovery	

¹ FOOTNOTES: Excluding systems expected to operate less than 5 hours per week.

² FOOTNOTES: If the design includes capacity for future cooling systems, then assume 20% of future systems serve high load spaces.

G. PUMPS

This section does not apply to this project.

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L. DISTRIBUTION (DUCTWORK AND PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and mandatory requirements found in §120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.
----	--------------------------	--

This section does not apply to this project.

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4>

Form/Title

NRCC-MCH-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4>

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-03-A - HVAC and Heat Pumps - Constant Volume Single Zone HVAC	ALERTON BACNET
NRCA-MCH-05-A - Air Economizer, DOAS, HRV, & ERV Controls	IU
NRCA-MCH-19-A - Occupied Standby	ALERTON BACNET

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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01	02	03	04	05	06	07	08	09
System Summary \$110.1, \$110.2, \$140.4, \$170.2(c), \$141.0(b), \$180.2(b2)	AND Pumps \$140.4(f), \$170.2(c)(4)	AND Fans/Econo mizers \$140.4(c), \$140.4(e), \$140.4(p), \$170.2(c)	AND System Controls § 110.2, \$110.2, \$140.4(f), \$140.4(r), \$170.2(c)	AND Ventilation §120.1, \$160.2	AND Terminal Box Controls \$140.4(d), \$170.2(c)(4)(8)	AND Distribution \$120.3, \$140.4(f), \$160.2, \$160.3, \$141.0(b)(2), \$180.2(b)(2)(8) 1	AND Cooling Towers \$110.2(e)(2)	Compliance Results
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)	
Yes	AND	Yes	AND	Yes	AND	Yes	AND	COMPLIES
Mandatory Measures Compliance (See Table Q for Details)								COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

System Name	02 Quantity	03 System Servicing	04 System Status	05 Space Type	06 Utilizing Recovered Heat
IU, OU	4	Single zone	Alteration	School or Classroom	☐
IU, OU	1	Single zone	Alteration	Office	☐

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H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e), §140.4(m), §170.2(c)(3), and §170.2(c)(4A) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	IU	Quantity	5	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units?	Not Serving Dwelling Units	Fan System Airflow (cfm)	3,000	Site Elevation	10	Economizer	Fixed Temperature
01	02	03	04	05	06	07	08	09	10	11					
						Allowance		Design							
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g.)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm) ¹	Design Electrical Input Power Method	Motor Nameplate Horsepower	Fan Electrical Input Power (kW)					
IU	Return	1	None used				0	Default per Table 140.4-D/141.0-D Variable Speed Drive	<1	0.89					
Supply Fan Base Allowance (watt/cfm)			Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)			Fan System Allowance (kW) ²		Fan System Electrical Input Power (kW)		0.89					

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FOOTNOTES: Fans serving spaces with design background noise goals below NC35

¹ Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the system wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.

² Fan system allowance includes fan system base allowance.

³ Filter pressure loss can only be counted once per fan system.

⁴ Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.

⁵ Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.

⁶ Indoor fans meeting the requirements of 140.4(a)(30) shall turn off when there is no demand for heating or cooling in the space. At 65% air flow the power draw shall be no more than 51% of the fan power at full fan speed and at 33% airflow the power draw shall be no more than 12% of the fan power at full fan speed.

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P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01	02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	No Plan sheet or construction document location
03	04
Mandatory Measure	Plan sheet or construction document location
Heating Equipment Efficiency per §110.1, Title 20, and federal minimums	N/A
Cooling Equipment Efficiency per §110.1, Title 20, and federal minimums	N/A
Furnace Standby Loss Control per §110.2(d)	N/A
Duct Insulation per §120.4	N/A
Heat Pump with Supplemental electric Resistance Heater Controls per §110.2(b)	N/A
The air duct and plenum system is designed per §170.4(s)-(t)	N/A

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F HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01		02		03		04		05		06		07		08		09		10		11	
Name or Item Tag	Equipment Category per Tables 110.2, 110.4(a)(2) and 170.2(c)(3)(a)	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available ¹ 110.4(a) and 170.2(c)(1)	Equipment Sizing per Mechanical Schedule (kBtu/h) 110.4(a)(2) and 170.2(c)(2)						Lead Calculations ^{3,4}											
				Heating Output ^{2,3}			Cooling Output ^{2,3}			Total Heating Load (kBtu/h)	Total Cooling Load (kBtu/h)										
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)													
IU, OU	Variable Refrigerant Flow	VRF heat pump, air cooled	Yes	44	46	0	43	45	44	40											
IU, OU	Variable Refrigerant Flow	VRF heat pump, air cooled	Yes	55	57	0	55	57.5	55	53											

¹FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 110.4(a) and 170.2(c). Healthcare facilities are excepted.

²This table is used to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

⁴Authority Having Jurisdiction may only for load calculations used for compliance per 110.4(b) and 170.2(a).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01		02		03		04		05		06		07		08		09		10		11	
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Heating Mode						Cooling Mode											
				Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Refrigerant Loop Heat Recovery	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency												
IU, OU	<65,000	47°Fdb/ 43°Fwb CSA	HSPF2	7.7	8.5				SEER2	13.4	16										
IU, OU	<65,000	47°Fdb/ 43°Fwb CSA	HSPF2	7.7	8.5				SEER2	13.4	16										

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Fan Energy Index (FEI)

01		02		03	
Name or Item Tag		FEI Exception		FEI	
IU		Altered Fan System			

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 110.4(f) and (n), 170.2(c)(4)D 170.2(c)(4) or requirements in 110.4(a)(2) or 110.2(b)(2) for altered space conditioning systems.

01		02		03		04		05		06		07		08		09		10		11	
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats 110.2(b) & (c)¹, 120.2(a) & 110.3(a)(2) or 110.3(b)(8) or 110.4(a)(2) & 110.2(b)(2)	Shut-Off Controls 120.2(e) & 110.3(a)(2) & 110.3(a)(2)F	Isolation Zone Controls 120.2(g) & 110.3(a)(2)F	Demand Response 110.12 120.2(b)(2) & 110.3(a)(2) & 110.2(c)(4)D	Supply Air Temp. Reset per 110.4(f) & 110.2(c)(4)D	Window Interlocks per 110.4(n) & 110.2(c)(4)D	Direct Digital Control (DDC) per 120.2	Heat Pump Defrost per 110.3(b)(7)											
ALERTON BACNET	Single zone	≤ 25,000 ft²	Setback	On-Off Sensor	On-Off Sensor	DR Total per 110.12	NA: Alteration	NA: Alteration Project	NA: Single Zone	NA Heat Pump not serving dwelling units											

¹FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATION AND INDOOR AIR QUALITY

This section does not apply to this project.

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Arax Orduubadi		Documentation Author Signature:	
Company: List Engineering Company		Signature Date:	
Address:		CITA/MA/ICC Certification Information (if applicable):	
City/State/Zip:		Phone:	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (persons [sic] designers).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1, and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement authority for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and make available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the building provides to the building owner at occupancy.

Responsible Person Name: Arax Orduubadi		Responsible Person Signature:	
Responsible Person Scope:		Date Signed:	
Company: List Engineering Company		License:	
Address:		Phone:	
City/State/Zip:			

Generated Date/Time: Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance Report Version: 2025.0.000 Schema Version: rev 2025/01/01 Compliance ID: ECA-374051-0225-0001 Report Generated: 2026-02-06 12:43:30



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

MECHANICAL

T-24

Sheet Number:

M0.03

Revisions:

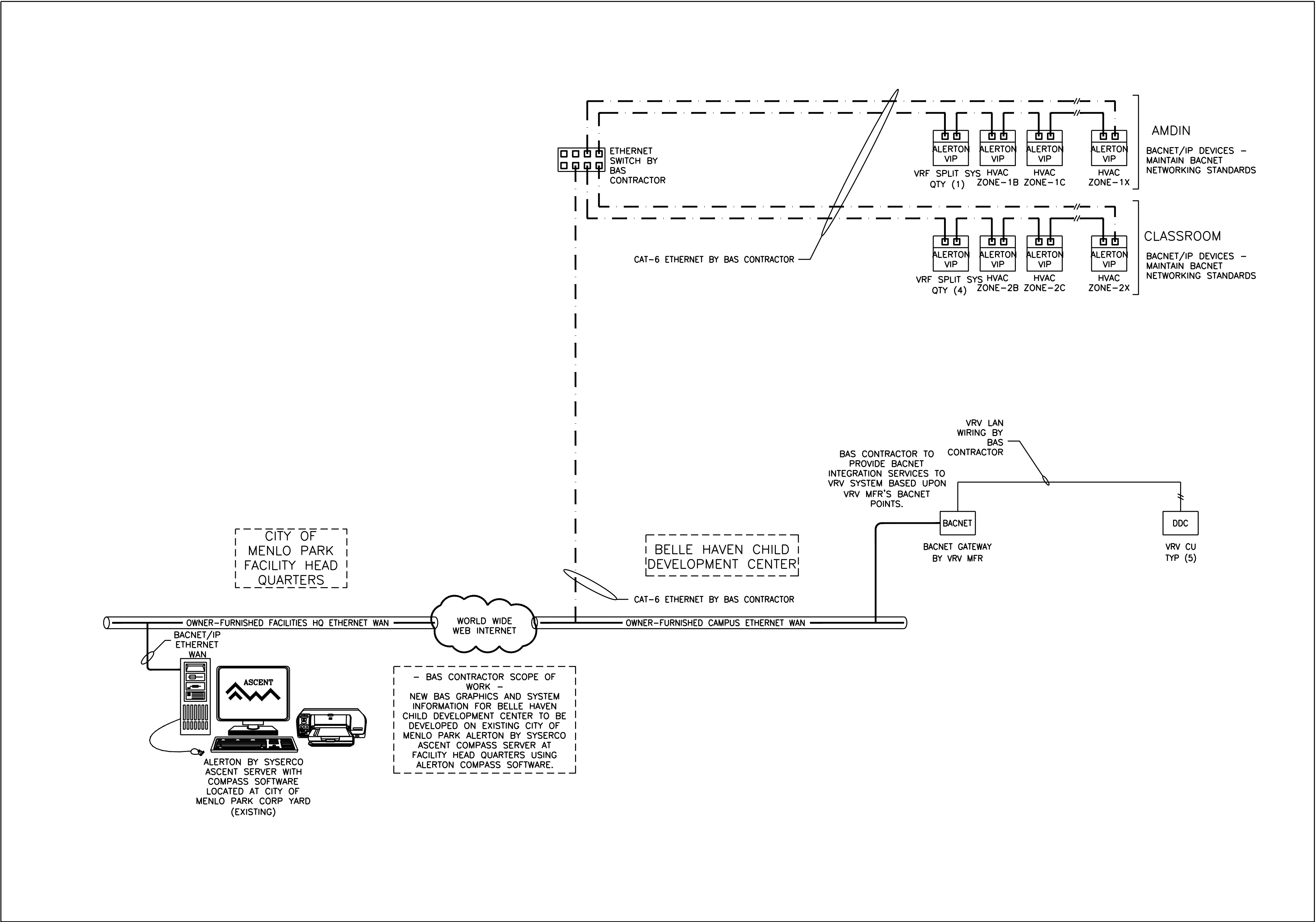
APN Number: 055-363-330
City Project Number: CPB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

BAS CONTROL
DIAGRAM

Sheet Number:

M0.04A



A
M0.04

ALERTON BACNET BAS SYSTEM - NETWORK ARCHITECTURE

NO SCALE



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330
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Sheet Title:

FAN COIL
CONTROL PLAN

Sheet Number:

M0.04B

Packaged AC Unit with Economizer, Demand Control Ventilation & Zone Occupancy Monitoring

1. System Overview

- Each AC unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
- EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor with integral relative humidity sensor and CO2 sensor.
- Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control; 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature; and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.

2. Occupancy/Vacancy Monitoring

- Zone occupancy and vacancy shall monitor auxiliary contacts on occupancy sensor(s).

3. Unit Fan Operation

- When the zone is in Occupied Mode or in After hours Mode, the fan shall run continuously, unless Vacant Mode has been triggered.
- During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.

4. Minimum Outdoor Air Ventilation

- During Occupied Mode or Afterhours Mode, the economizer damper shall be commanded by the EMS unitary controller to maintain a position which satisfies the Minimum Outdoor Air ventilation requirements for the zone. Damper position(s) determined by Air Balancing Contractor.

- Minimum outdoor air ventilation will reset between 150 CFM and 405 CFM based on zone CO2 feedback.

5. Demand Control Ventilation

- EMS unitary controller will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration.
- During Occupied Mode or Afterhours Mode, the EMS unitary controller shall reset the outside air damper minimum position to maintain the CO2 concentration below 1,000 ppm.

6. Wildfire Smoke Mode

- Wildfire smoke mode shall be enabled manually from the BAS by the operator or automatically via the PM2.5 outdoor air quality sensor. When enabled wildfire smoke mode automatically disables after three days to prevent being inadvertently left on.
- During this mode, the mixing box provides the DCV minimum outside airflow and does not open to economize or in response to CO2 feedback. The BAS front end screen should visually indicate when this mode is enabled.

7. Automatic Demand Reduction Controls

- EMS shall be programmed with capability to implement centralized demand shed for all non-critical zones upon call for Automatic Demand Reduction. Critical zones shall not be impacted by demand shed conservation measures.

8. Vacant Mode Control

- When the zone has been scheduled for occupancy for at least one hour and the occupancy sensor has confirmed that zone has been vacant for 5 minutes (adjustable: maximum 30 minutes), zone shall be placed into Vacant Mode.
- Reset cooling and heating setpoints up and down by 2°F (adjustable) or more.
- Ventilation air in a Vacant zone shall be reduced to zero when permitted to do so according to California Title 24 Table 120.1A (all Occupancy Categories with Note "F" designation). The unit fan shall be shut off and the economizer shall be closed to the outside air. For all other zones, the economizer shall be set to Minimum Outdoor Air position and the unit fan shall operate to provide minimum ventilation during Vacant Mode.
- Upon detection of occupancy, Vacant Mode shall be cleared.

9. Zone Pre-Occupancy Purge

- The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.

10. Heating operation

- The controller compares the heating setpoint with the space temperature and determines a need-heating control signal to enable heating stage.
- Economizer to be commanded to Min CFM setpoint and mechanical cooling to be locked out during heating mode.

11. Cooling operation

- The controller compares the cooling setpoint with the space temperature and determines a need-cooling signal.
- The first stage of cooling will enable the economizer to provide free cooling for as long as possible.
- The second stage will enable cooling stage.
- Mechanical heating to be locked out during cooling mode.

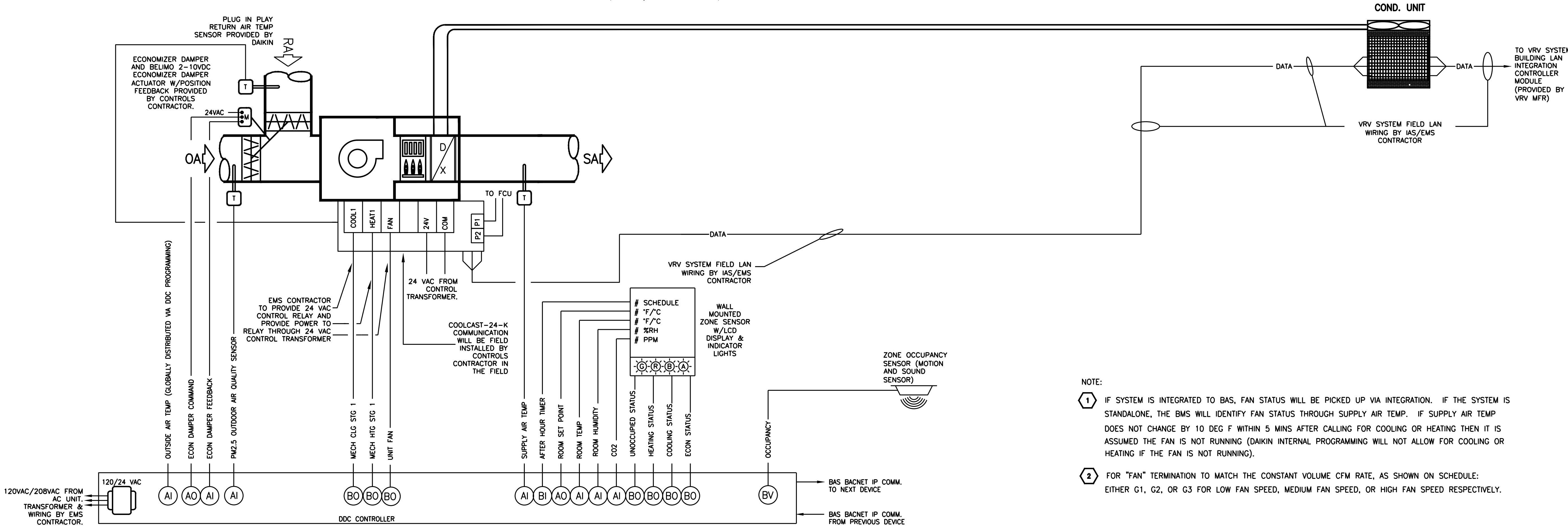
12. Fault Detection Diagnostics

- The EMS DDC Controller shall monitor the following economizer actuator Fault Detection Diagnostic conditions and broadcast results via EMS network:

- Temperature Sensor Failure/Fault
- Economizer not economizing when enabled
- Economizer economizing when disabled
- Economizer damper modulation failure
- Excess outdoor air

13. Monitoring - The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User Interface:

- Supply air temperature.
- Room temperature.
- Room humidity.
- Room CO2 concentration.
- Room occupancy status.
- Current mode (heating/cooling/fan).
- Supply air temperature attained last time unit was in heating.
- Supply air temperature attained last time unit was in cooling.
- Current command status of fan, economizer, compressor and gas valve.
- Run time meters on fan, compressor, and heat.
- Fan Status thru Current Switch.
- Economizer actuator feedback status.
- Wildfire mode (manually commanded on).



B DIRECT CONTROL VRV DUCTED FAN COIL UNIT
M0.04 NO SCALE



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

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KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:

ADMIN PLAN

Sheet Number:

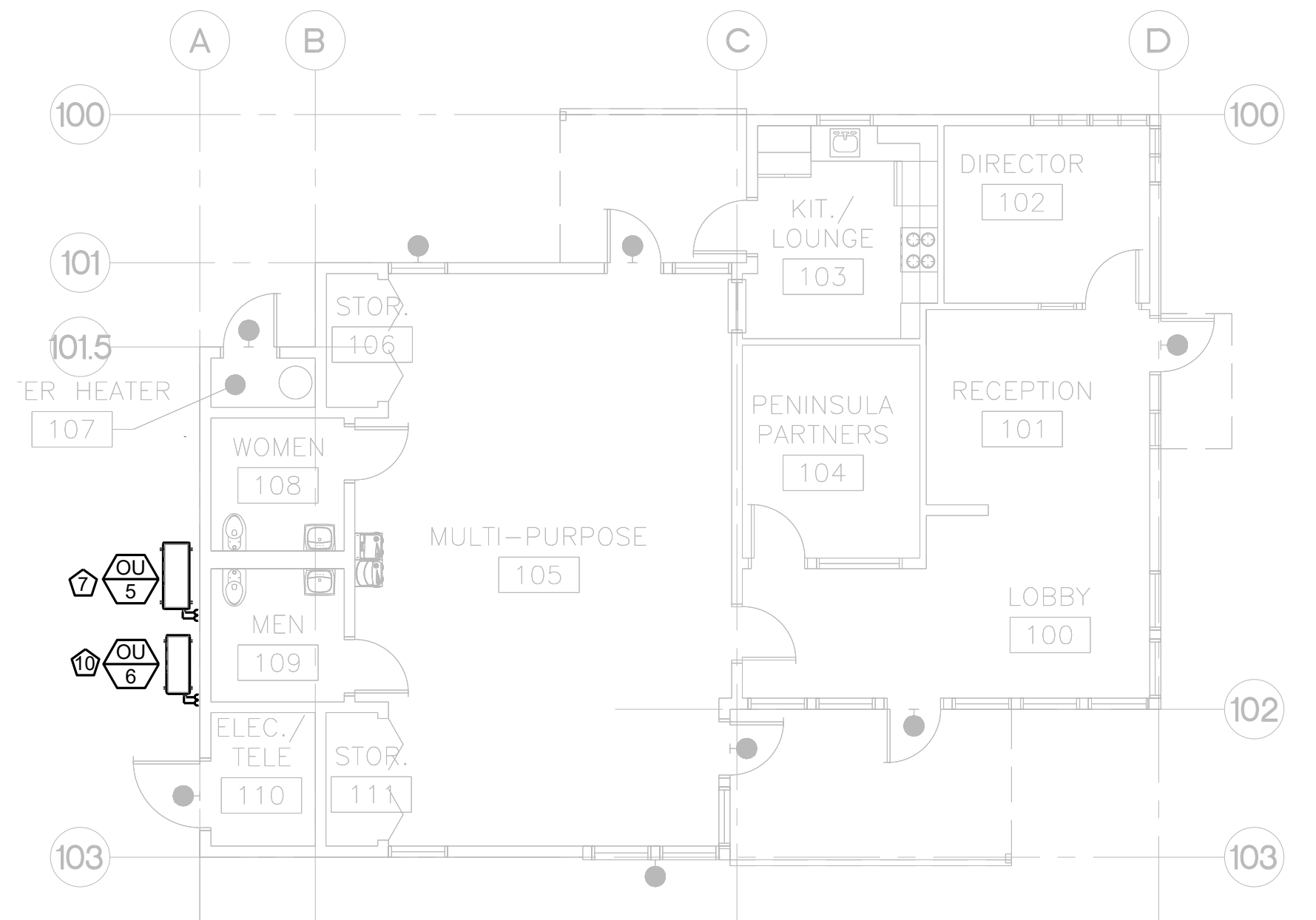
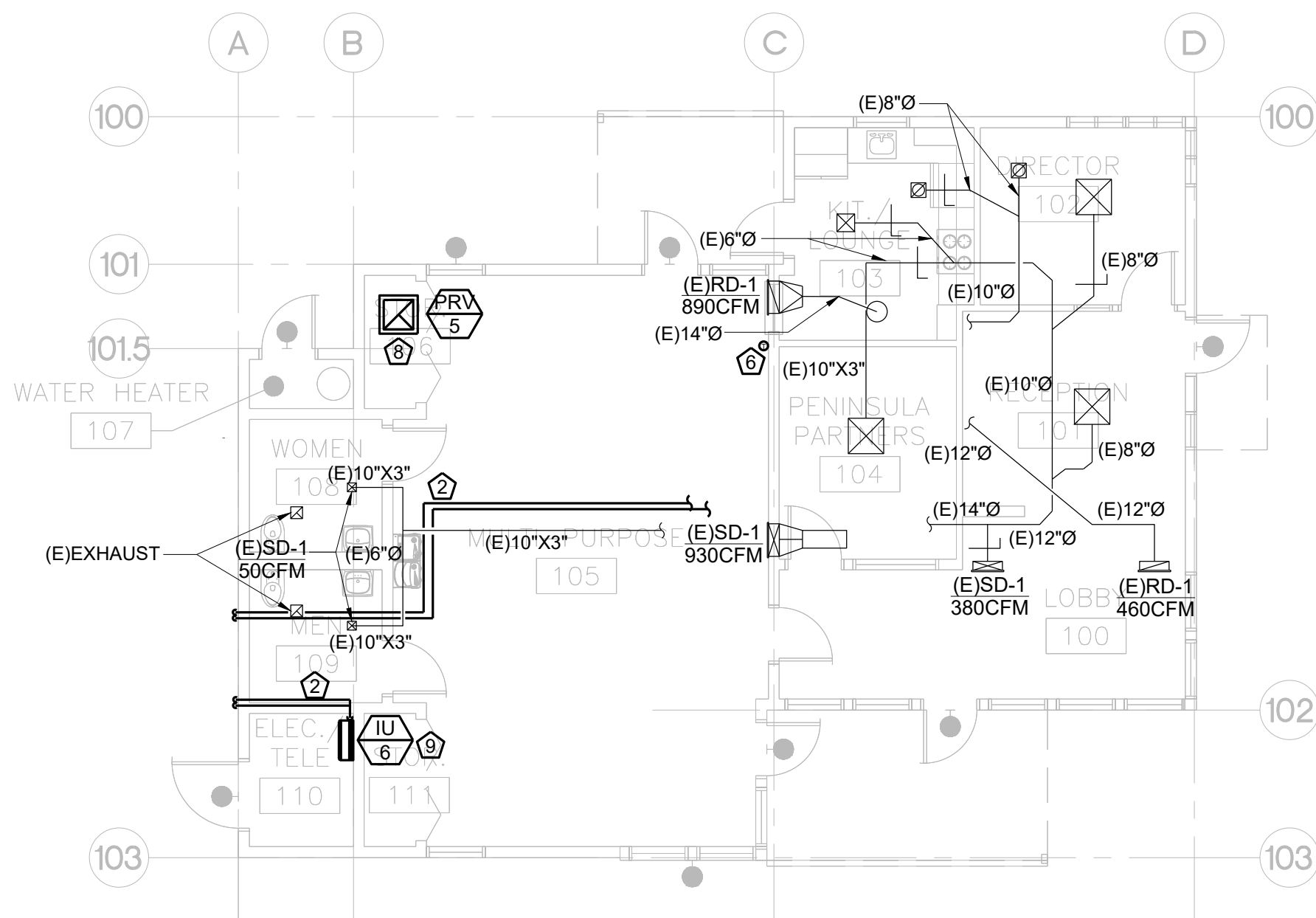
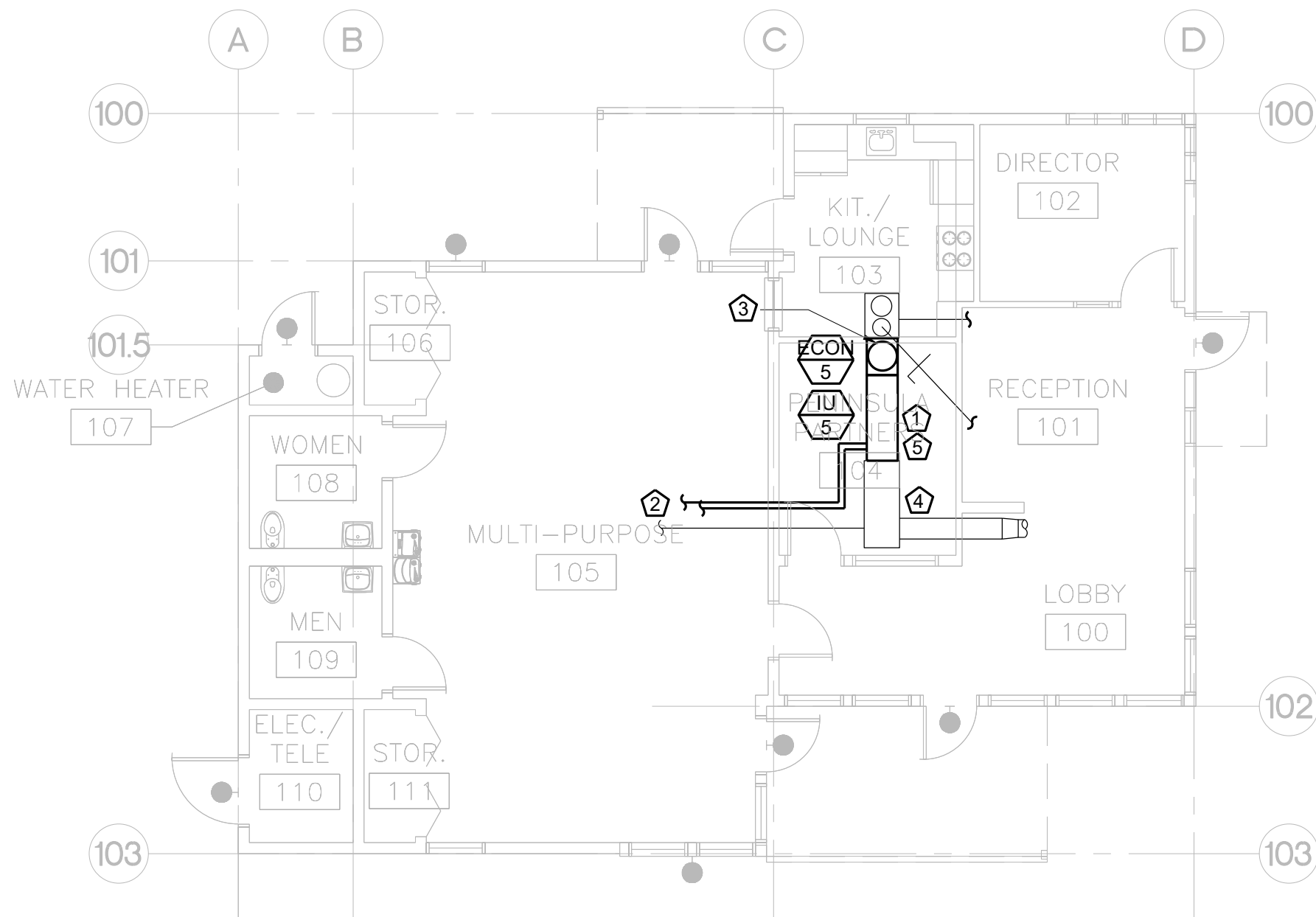
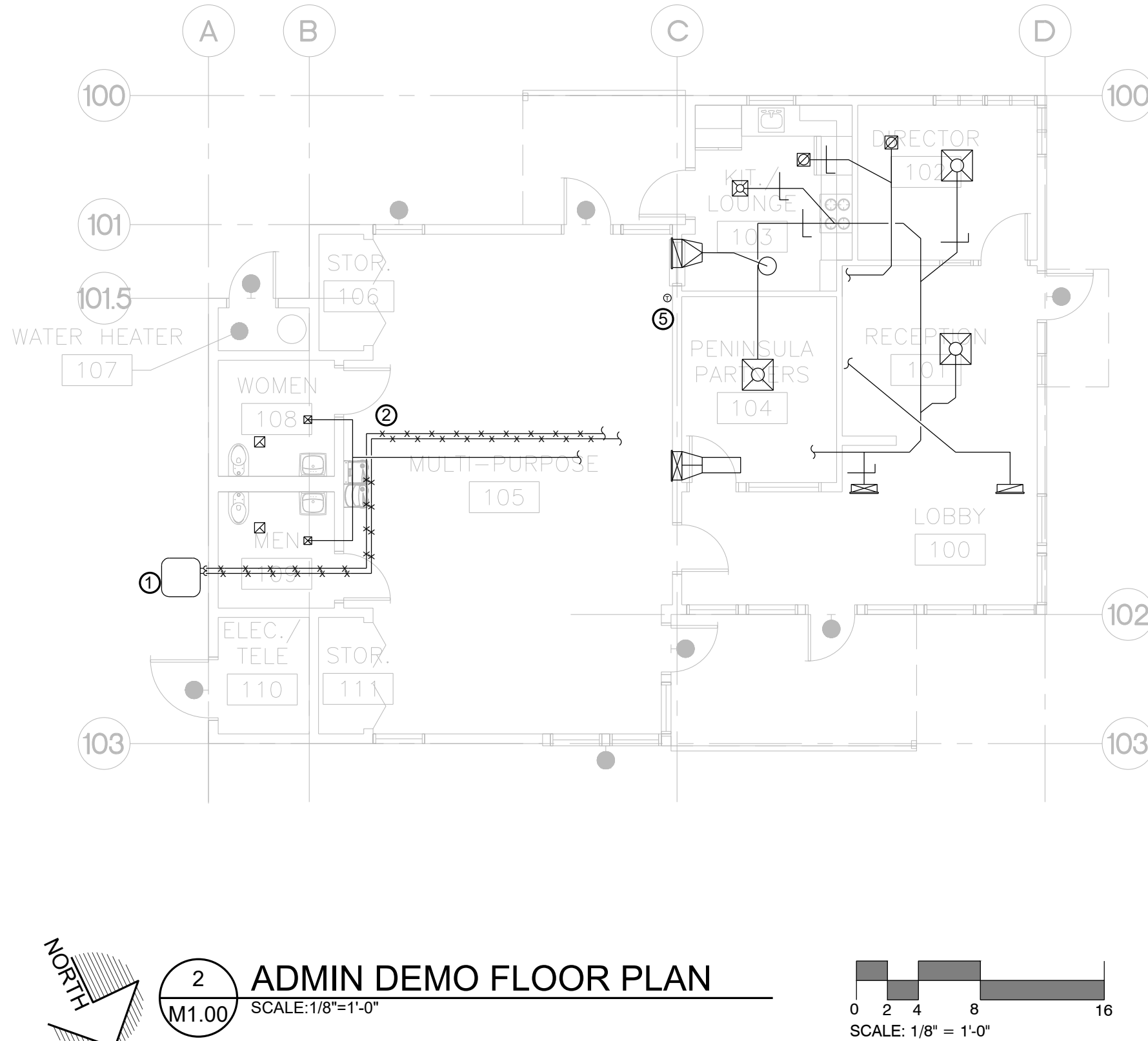
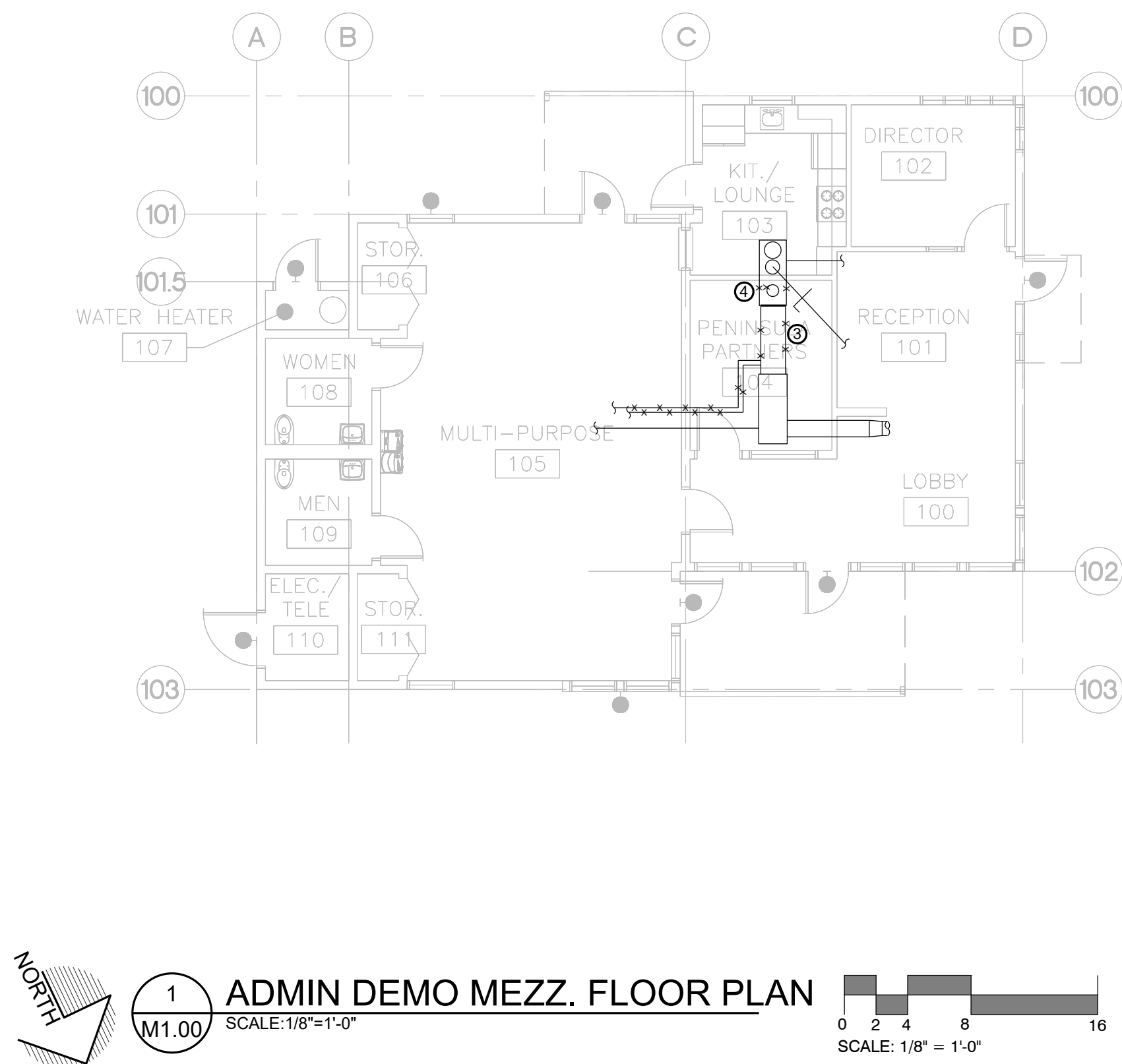
M1.00

DEMOLITION NOTE

1. REMOVE EXISTING CONDENSER. PRIOR TO DISCONNECTION OR REMOVAL OF ANY HVAC EQUIPMENT, RECOVER ALL REFRIGERANT IN ACCORDANCE WITH EPA SECTION 608 AND ALL APPLICABLE LAWS. VENTING OF REFRIGERANT TO ATMOSPHERE IS PROHIBITED.
2. REMOVE EXISTING REFRIGERANT LINE SET SERVING DEMOLISHED HVAC EQUIPMENT, FROM ATTIC TO OUTDOOR UNIT.
3. REMOVE EXISTING FURNACE AND EVAPORATOR COIL.
4. REMOVE 10" OUTSIDE AIR DUCT ROUTED TO ROOF.
5. REMOVE EXISTING THERMOSTAT

SHEET NOTES

1. INSTALL VRV AIR HANDLER AND COMPATIBLE ECONOMIZER.
2. RUN NEW REFRIGERANT LINE FROM INDOOR UNIT TO OUTDOOR UNIT. PROVIDE 3/4" INSULATION.
3. RUN 22" ROUND DUCT FROM ECONOMIZER UP TO ROOF. PROVIDE GOOSENECK, BACKDRAFT AND VOLUME DAMPER.
4. INSPECT, CLEAN, AND REUSE EXISTING DUCTWORK. IF DAMAGED, REPORT FOR REPLACEMENT. RECONNECT EXISTING BRANCH CONNECTIONS TO NEW PLENUMS.
5. INSTALL NEW CONDENSATE DRAIN LINE AND ROUTE AS EXISTING. PROVIDE NEW CONDENSATE TRAPS, CLEANOUTS, AND AIR GAPS AS REQUIRED BY CODE AND MANUFACTURER.
6. INSTALL NEW THERMOSTAT.
7. INSTALL NEW VRV CONDENSER OUTSIDE.
8. INSTALL PRESSURE RELIEF VALVE ON CEILING TO ROOF.
9. INSTALL NEW WALL MOUNT MINISPLIT WITH CONDENSATE DRAIN PUMP. ROUTE REFRIGERANT AND CONDENSATE DRAIN LINES UP TO ROOF AND OUT TO EXTERIOR OF BUILDING. RUN DRAINAGE TO SAFE DISCHARGE.
10. INSTALL NEW OUTDOOR MINISPLIT CONDENSER.





CITY OF MENLO PARK
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Date: APR 10, 2026

Sheet Title:

CLASSROOM
DEMO PLAN

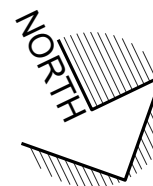
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○ DEMOLITION NOTE

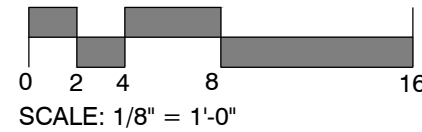
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2. REMOVE EXISTING REFRIGERANT LINE SET SERVING DEMOLISHED HVAC EQUIPMENT, FROM ATTIC TO OUTDOOR UNIT.
3. REMOVE 10" OUTSIDE AIR DUCT
4. REMOVE EXISTING THERMOSTAT

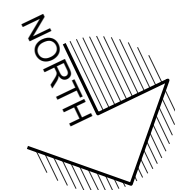
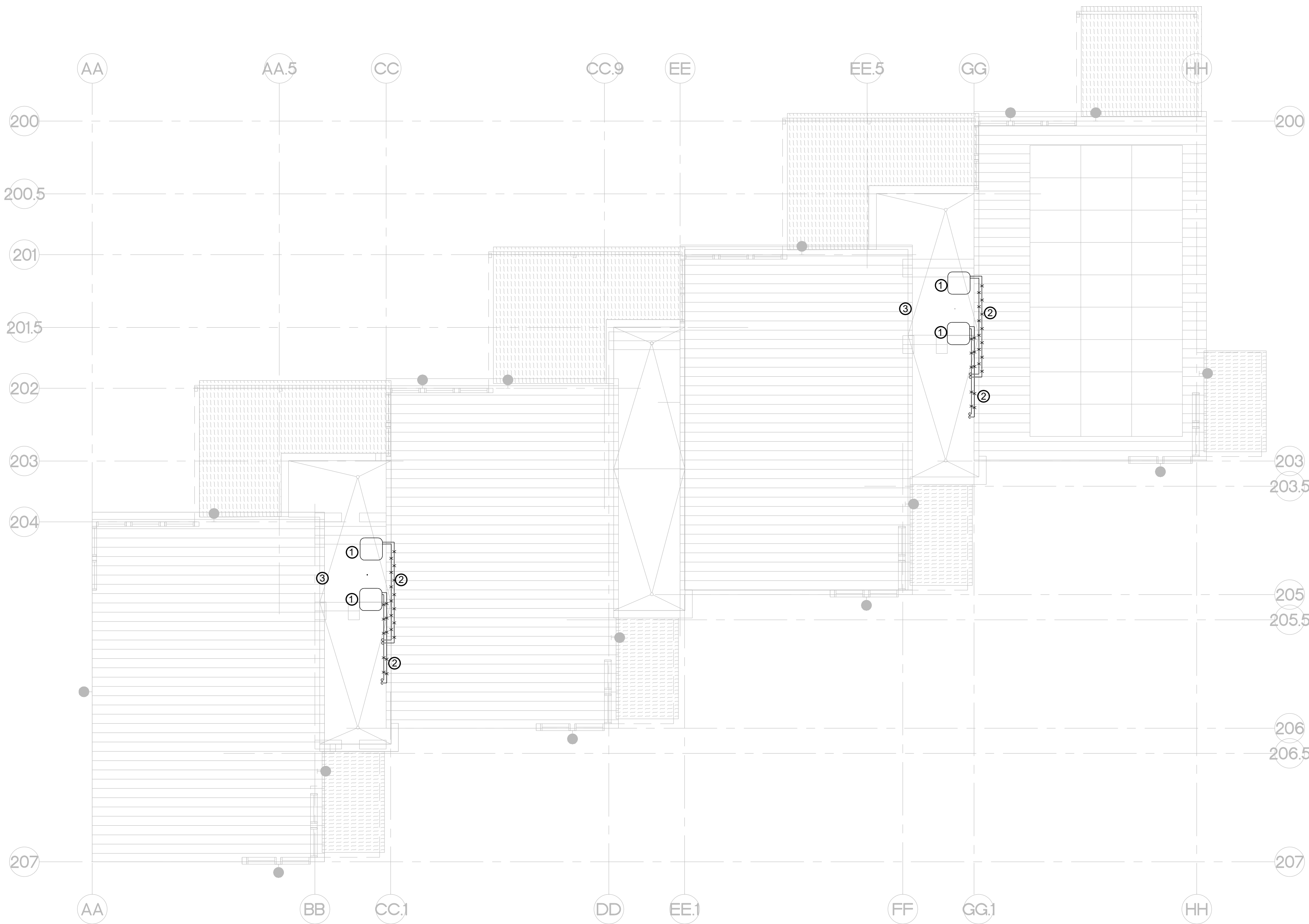


2
M2.01

CLASSROOM DEMO MEZZ FLOOR PLAN

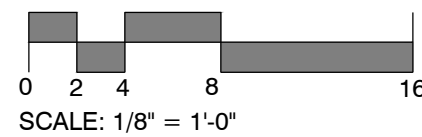
SCALE: 1/8" = 1'-0"





1
M1.02

CLASSROOMS DEMO ROOF PLAN
SCALE: 1/8"=1'-0"



DEMOLITION NOTE

1. REMOVE EXISTING CONDENSERS, PRIOR TO DISCONNECTION OR REMOVAL OF ANY HVAC EQUIPMENT, RECOVER ALL REFRIGERANT IN ACCORDANCE WITH EPA SECTION 608 AND ALL APPLICABLE LAWS. VENTING OF REFRIGERANT TO ATMOSPHERE IS PROHIBITED.
2. REMOVE EXISTING REFRIGERANT LINE SET SERVING DEMOLISHED HVAC EQUIPMENT, FROM ATTIC TO OUTDOOR UNIT.
3. LOCATE AND REMOVED EXISTING OUTSIDE AIR INTAKE.



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Sheet Title:

DEMO ROOF
PLAN

Sheet Number:

M1.02



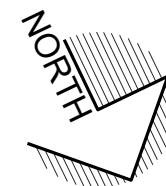
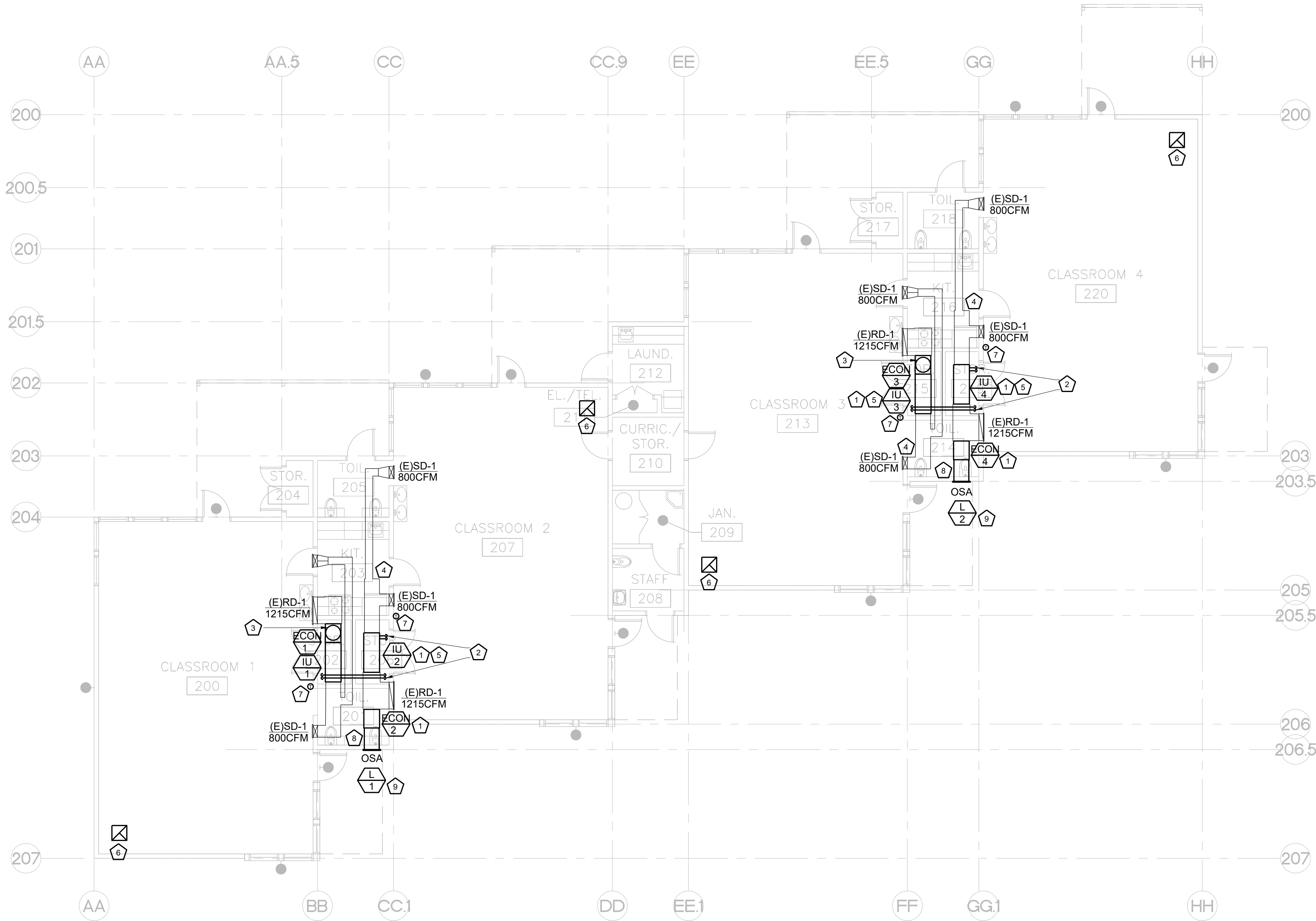
CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

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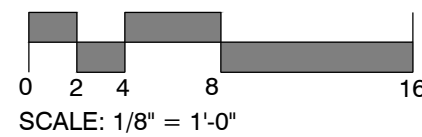
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**CLASSROOM
FLOOR PLAN**

Sheet Number:
M2.01



2
M2.01

CLASSROOM MEZZ FLOOR PLAN
SCALE: 1/8" = 1'-0"



SHEET NOTES

1. INSTALL VRV AIR HANDLER AND COMPATIBLE ECONOMIZER.
2. RUN NEW REFRIGERANT LINE FROM INDOOR UNIT TO OUTDOOR UNIT ON ROOF.
3. RUN 20" ROUND OUTSIDE AIR INTAKE DUCT FROM ECONOMIZER UP TO ROOF. PROVIDE INTAKE HOOD.
4. INSPECT, CLEAN, AND REUSE EXISTING DUCTWORK. IF DAMAGED, REPORT FOR REPLACEMENT. RECONNECT EXISTING BRANCH CONNECTIONS TO NEW PLENUMS.
5. INSTALL NEW CONDENSATE LINE AND ROUTE IT AS EXISTING. PROVIDE NEW CONDENSATE TRAPS, CLEANOUTS, AND AIR GAPS AS REQUIRED BY CODE AND MANUFACTURER.
6. INSTALL 20" X 20" PRESSURE RELIEF VALVE ON CEILING TO ROOF. CONTRACTOR TO DETERMINE EXACT LOCATION.
7. INSTALL NEW THERMOSTAT FOR EACH CLASSROOM.
8. INSTALL 18" X 20" DUCT FROM ECONOMIZER TO EXTERIOR LOUVER.
9. INSTALL NEW 24" X 36" LOUVER AT EXTERIOR WALL AT EXISTING LOUVER LOCATION.



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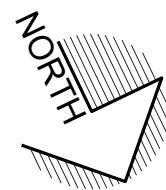
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**CLASSROOM
ROOF PLAN**

Sheet Number:

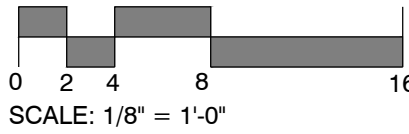
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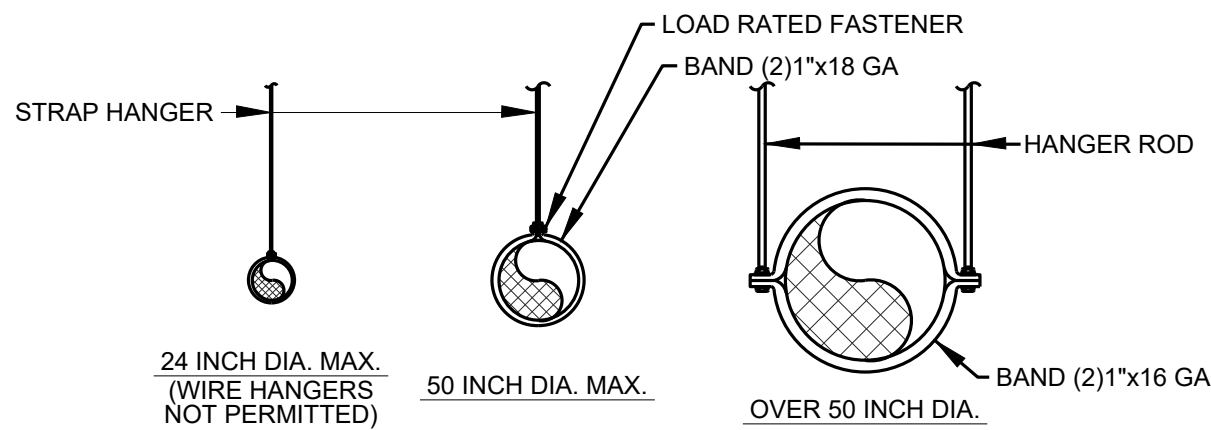
SHEET NOTES

1. INSTALL VRV CONDENSER ON ROOF.
2. RUN NEW REFRIGERANT LINE FROM INDOOR UNIT TO OUTDOOR UNIT ON ROOF.
3. INSTALL 20" X 20" PRESSURE RELIEF VALVE ON CEILING TO ROOF. PROVIDE WATERTIGHT FLASHING AND SEAL.
4. INSTALL NEW INTAKE HOOD FOR OUTSIDE AIR INTAKE IN THE EXISTING LOCATION.



1 CLASSROOMS ROOF PLAN
M2.02 SCALE: 1/8" = 1'-0"



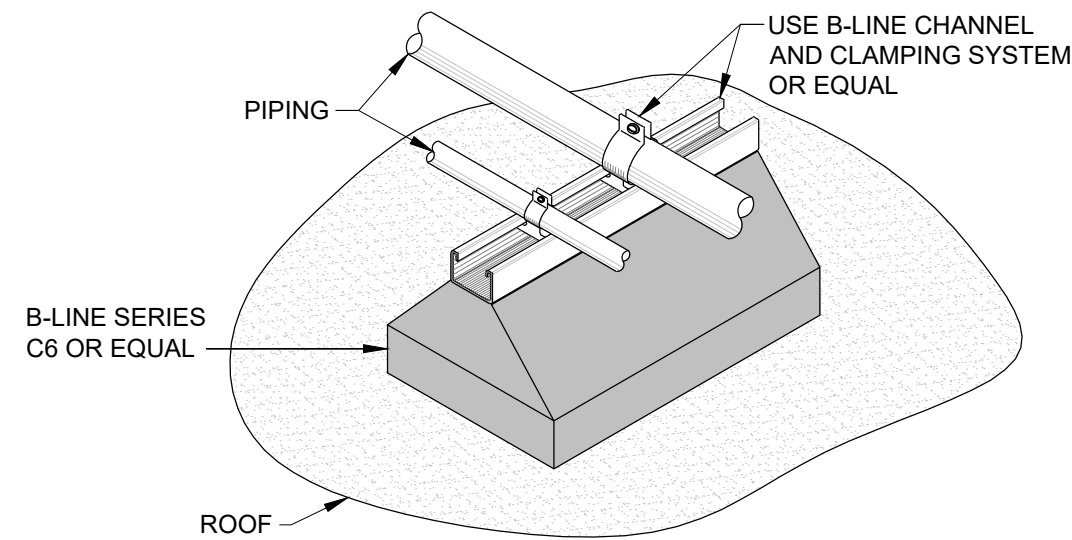


- NOTES:
1. FOR HANGER SIZE AND SPACING, SEE SMACNA HVAC MINIMUM HANGER SIZES FOR ROUND DUCT TABLE 5-2.
 2. FOR UPPER ATTACHMENT TO BUILDING SEE SMACNA HVAC FIG. 5-2, FIG. 5-3, AND FIG 5-4. FOR LOWER SUPPORTS SEE SMACNA HVAC FIG. 5-5.
 3. FOR BRACING AND OTHER SEISMIC REQUIREMENT SEE GUIDELINES MECHANICAL SYSTEMS AND PLUMBING. ALSO REFER TO NATIONAL UNIFORM SEISMIC INSTALLATION.

1
M5.01

ROUND DUCT SUPPORTS

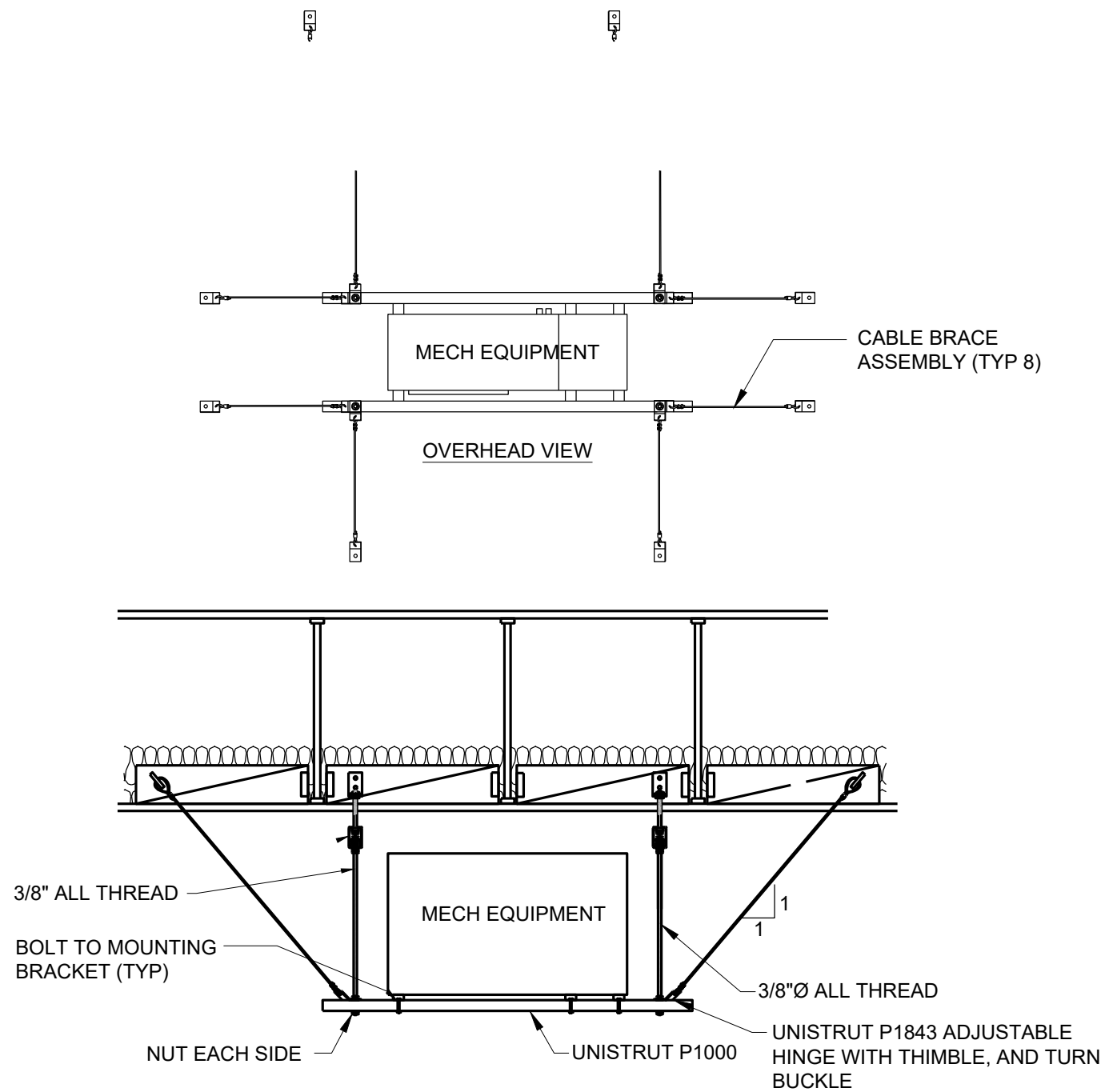
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2
M5.01

ROOF SUPPORT FOR PIPING

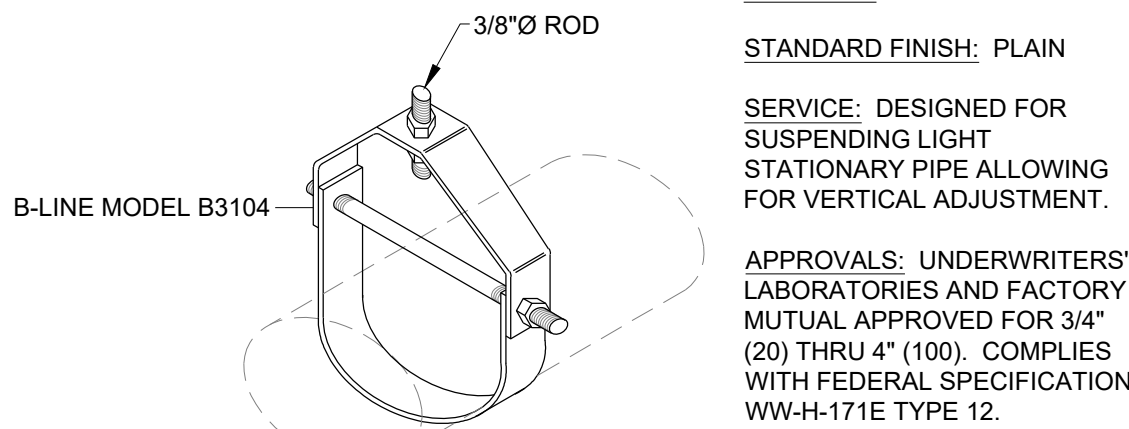
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3
M5.01

EQUIPMENT MOUNTING DETAIL

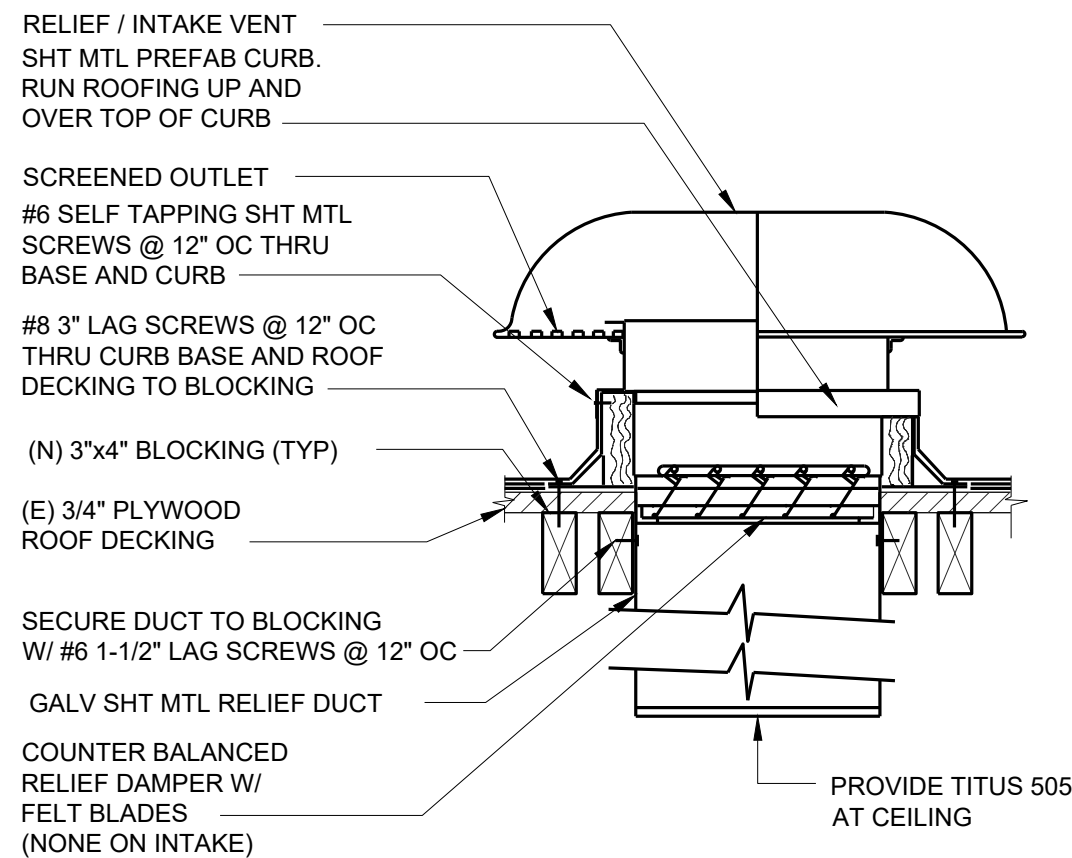
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4
M5.01

REFRIGERANT PIPING HANGER

NO SCALE



5
M5.01

RELIEF / INTAKE VENT DETAIL

NO SCALE

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MECHANICAL
DETAILS

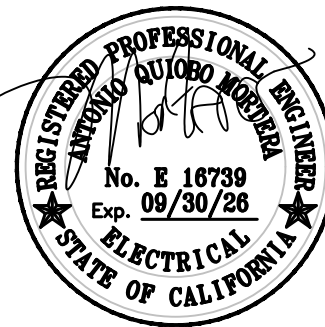
Sheet Number:

M5.01

1.	THE LATEST ADDITION OF THE ARCHITECT'S GENERAL, SPECIAL AND SUPPLEMENTARY CONDITIONS AS WELL AS SEPARATE SPECIFICATIONS OR PROJECT MANUALS AREA PART OF THESE CONSTRUCTION DOCUMENTS.	WEATHERPROOF ENCLOSURES. GI TYPE RECEPTABLES LOCATED ON ROOF SHALL HAVE "IN USE" TYPE WEATHER PROOF ENCLOSURES, AND MUST BE LOCATED WITHIN 25' OF ROOF MOUNTED EQUIPMENT.	37.	COMPLETE, POST, SUBMIT, OR MAKE AVAILABLE TO THE ENFORCEMENT AGENCY FOR ALL APPROPRIATE INSPECTIONS OR BUILDING ORDER, DOCUMENTATION IN ACCORDANCE WITH TITLE 24 PART 6 SECTION 10-103 TO INCLUDE BUT NOT LIMITED TO: a. INSTALLATION CERTIFICATE(S) FOR MANUFACTURED DEVICES REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS OF PART 6. b. CERTIFICATE(S) OF ACCEPTANCE FORMS. FORMS MUST BE FILED WITH THE ENFORCING AGENCY PRIOR TO RECEIVING FINAL OCCUPANCY PERMIT. c. APPROPRIATE CERTIFICATE(S) OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS, AND COMPONENTS INSTALLED IN THE BUILDING(S) TO THE OWNER WITH INSTRUCTIONS ON HOW TO OPERATE THEM EFFICIENTLY. d. MAINTENANCE INFORMATION FOR ALL FEATURES, MATERIALS, COMPONENTS, AND MANUFACTURED DEVICES THAT REQUIRE ROUTINE MAINTENANCE FOR EFFICIENT OPERATION.
2.	THE SCOPE OF WORK SHALL INCLUDE LABOR, MATERIALS, EQUIPMENT, TOOLS AND SERVICES REQUIRED FOR THIS COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS AS INDICATED AND SPECIFIED.	16. INSTALL EXPOSED CONDUITS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS AND FOLLOW SURFACE CONTOURS AS MUCH AS POSSIBLE.	38.	DELIVER COMPLETE AND ACCURATE RECORD DRAWINGS (AS-BUILT) TO BUILDING ORDER NO. 90 DAYS OF RECEIVING FINAL OCCUPANCY PERMIT FOR THE ENFORCING AGENCY (AUTHORITY HAVING JURISDICTION). IF ANY CHARACTERISTIC IS MATERIALLY CHANGED BEFORE FINAL CONSTRUCTION AND INSTALLATION, SUCH THAT THE BUILDING MAY NO LONGER COMPLY WITH TITLE 24, PART 6, THE BUILDING MUST BE BROUGHT BACK INTO COMPLIANCE, AND SO INDICATED ON AMENDED PLANS, SPECIFICATIONS, AND CERTIFICATE(S) OF COMPLIANCE AND SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY. SUCH CHARACTERISTICS SHALL INCLUDE THE EFFICIENCY (OR OTHER CHARACTERISTIC REGULATED BY PART 6) OF EACH DEVICE.
3.	PROVIDE ELECTRICAL EQUIPMENT, WIRES, CONDUITS, CONNECTIONS, OUTLETS, ETC. NECESSARY TO ACHIEVE A COMPLETE ELECTRICAL INSTALLATION. WHEN AN ELECTRICAL DEVICE IS REQUIRED BY CODE, BUT NOT SHOWN, IT SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS THOUGH FULLY SHOWN AND SPECIFIED.	17. PROVIDE ACCESS PANELS AS REQUIRED FOR CODE REQUIRED ACCESS IN HARD CEILING AREAS. PANEL LOCATIONS SHALL BE SUBMITTED TO AND APPROVED BY ARCHITECT PRIOR TO INSTALLATION.	39.	40. NOT USED
4.	BE FULLY RESPONSIBLE FOR DAMAGES INCURRED TO WALLS, FLOORS, AND CEILINGS DURING ELECTRICAL CONSTRUCTION. IF DAMAGES DURING ELECTRICAL CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL PATCH, REPAIR, AND PAINT DAMAGED SURFACES TO ORIGINAL CONDITION.	18. PROVIDE ELECTRICAL FINAL CONNECTIONS TO ELECTRICAL EQUIPMENT AND OUTLETS FOR A COMPLETE AND OPERABLE SYSTEM UNLESS OTHERWISE NOTED.	41.	POWDER ACTUATED FASTENERS ARE NOT PERMITTED FOR USE ON THIS PROJECT.
5.	ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW JUNCTION BOXES, PULL BOXES, OFFSETS, BENDS, ELBOWS OR OTHER SPECIFIC ELEMENTS WHICH MAY BE REQUIRED FOR PROPER INSTALLATION OF WORK, SIZE, AND LOCATION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE BUT MAY BE DISTORTED FOR CLARITY OF THE DRAWINGS. IT IS NOT WITHIN THE SCOPE OF DRAWINGS TO SHOW NECESSARY BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. PROVIDE AN INSTALLATION TO MAINTAIN HEADROOM, AND KEEP OPENINGS AND PASSAGeways CLEAR.	19. PENETRATIONS OF FLOORS, ROOF, WALLS, AND WALL MEMBRANES ARE REQUIRED TO HAVE A FIRE-RESISTANT RATINGS SHALL BE PROTECTED WITH THROUGH-PENETRATION FIRE STOPS SUITABLE FOR THE METHOD OF PENETRATION. THROUGH-PENETRATION FIRE STOPS SHALL BE TESTED IN ACCORDANCE WITH UL AND CBC REQUIREMENTS.	42.	PROVIDE CONDUIT PENETRATIONS THROUGH ROOF FOR ARC FLASH ALARMS DEVICES LOCATED ON ROOF.
6.	ELECTRICAL MATERIAL & EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED. EQUIPMENT SHALL BE LISTED, LABELED, AND INSTALLED PER A RECOGNIZED ELECTRICAL TESTING LABORATORY, AND MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA & NBP. REPLACE DEFECTIVE OR DAMAGED MATERIALS, OR REPAIR IN A MANNER APPROVED BY THE OWNER.	20. PROVIDE FLOORKEEPING PADS MINIMUM 4" ABOVE FINISHED FLOOR FOR INTERIOR MOUNTED EQUIPMENT AND 4" ABOVE FINISHED GRADE FOR EXTERIOR MOUNTED EQUIPMENT. PROVIDE A MINIMUM OF 6" FROM EDGE OF PAD ON ALL SIDES, UNLESS OTHERWISE NOTED. FOR PAD DETAIL SEE STRUCTURAL DRAWINGS.	43.	PERFORM AN ARC FLASH ANALYSIS STUDY IN CONJUNCTION WITH SPECIFIED SHORT CIRCUIT AND PROTECTIVE DEVICE COORDINATION STUDY. THIS ARC FLASH ANALYSIS STUDY TO BE PERFORMED IN ACCORDANCE WITH IEEE STANDARD 1584a. DETERMINE THE FOLLOWING FOR EACH WORK AREA LISTED ABOVE: A. ARC FLASH PROTECTIVE BOUNDARY B. INCIDENT ENERGY LEVEL C. REQUIRED PERSONAL PROTECTIVE EQUIPMENT CATEGORY D. TYPE OF FIRE RATED CLOTHING E. LIMITED APPROACH BOUNDARY F. RESTRICTED APPROACH BOUNDARY
7.	DEFINITIONS: a. "TURNISH": SUPPLY AND DELIVER TO PROJECT SITE, UNLOAD, UNPACK AND ASSEMBLE, AND PUT IN PLACE b. "INSTALL": OPERATIONS AT PROJECT SITE INCLUDING, TEMPORARILY STORING, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS c. "PROVIDE": FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE d. "SHALL": USED TO QUALIFY AN ACTION WHICH IS MANDATORY	21. VISIT THE JOBSITE PRIOR TO SUBMITTING PROPOSAL TO BECOME FAMILIAR WITH EXISTING CONDITIONS.	44.	PRODUCE AN ARC FLASH WARNING LABEL FOR EACH PIECE OF ELECTRICAL EQUIPMENT WITH IDENTIFICATION AND RESULTANT VALUES OF THE ARC FLASH STUDY ITEMS LISTED ABOVE FOR THAT EQUIPMENT. INCLUDE THE SYSTEM OPERATING VOLTAGE AND DATE OF ISSUE. LABELS SHALL BE PRINTED IN COLOR ON ADHESIVE BACKED NYLON LABELS AND APPLIED TO EQUIPMENT FRONT.
8.	PROVIDE SEISMIC SUPPORT DEVICES, RESTRAINTS AND APPURTENANCES INCLUDING HANGERS, ANCHORS, SLEEVES, INSERTS, SEALS, AND ASSOCIATED ELECTRICAL ITEMS IN ACCORDANCE WITH STATE, COUNTY, CITY, AND LOCAL CODES. SEISMIC RESTRAINTS AND ATTACHMENTS FOR ELECTRICAL EQUIPMENT AND SYSTEM COMPONENTS SHALL BE PROVIDED IN ACCORDANCE WITH CBC AND SMOANA REQUIREMENTS.	22. PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES FOR THE FOLLOWING EQUIPMENT INCLUDING BUT NOT LIMITED TO: METERS, PANELBOARDS, SWITCHBOARDS INCLUDING EACH INDIVIDUAL DEVICE OR PIECE OF EQUIPMENT WITHIN THE SWITCHBOARD, MOTOR CONTROL CENTERS (MCC) INCLUDING EACH DEVICE WITHIN THE MCC, ENCLOSED SWITCHES, STARTERS, CONTACTORS, CIRCUIT BREAKERS AND TRANSFORMERS.	45.	MINIMUM CONDUIT SIZE SHALL BE 3/4" STEEL, UNLESS OTHERWISE NOTED.
9.	REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATIONS, DIMENSIONS, AND/OR RATINGS OF FIRE RATED SEPARATORS, EXPANSION JOINTS, AND SEISMIC JOINTS.	23. SEE DRAWINGS AND SPECIFICATIONS OF OTHER DIVISIONS FOR ADDITIONAL CONNECTION REQUIREMENTS FOR CONTROL DEVICES AND EQUIPMENT, INCLUDING BUT NOT LIMITED TO: CONTROL PANELS & TRANSFORMERS, 120V FOR CONTROL SYSTEM SWITCHES, TIME CLOCK, VALVES, STATS, RELAYS, DUST SMOKE DETECTORS, ETC. VERIFY FINAL CONTROL WIRING REQUIREMENTS WITH CONTRACTORS OF OTHER DIVISIONS PRIOR TO COMMENCEMENT OF WORK, AND PROVIDE NECESSARY DEVICES AND CONNECTIONS.	46.	MINIMUM WIRE SIZE SHALL BE AWG #12 MINIMUM, UNLESS OTHERWISE NOTED.
10.	KEEP CONDUITS AND OTHER OPENINGS CLOSED TO PREVENT ENTRY OF FOREIGN MATTER. COVER FIXTURES, EQUIPMENT AND APPURTENANCES AGAINST WEATHER, VIBRATION, OR MECHANICAL DAMAGE BEFORE AND DURING THE CONSTRUCTION PERIOD UNTIL FINAL ACCEPTANCE. RESTORE TO ORIGINAL CONDITION ANY FIXTURES, APPARATUS OR EQUIPMENT DAMAGED PRIOR TO FINAL ACCEPTANCE, INCLUDING RESTORATION OF DAMAGED SHOP COATS PAINT. DELIVER EQUIPMENT AND STORED AT THE SITE, PROPERLY PACKED AND CRATED, UNTIL FINALLY INSTALLED.	24. EQUIPMENT SHALL BE BONDED AND GROUNDED IN ACCORDANCE WITH STATE, COUNTY, CITY, AND LOCAL CODES, APPLICABLE CODES AND JURISDICTIONS. REFER TO SPECIFICATIONS FOR DETAILS. ALL FEEDERS AND BRANCH CIRCUIT CONDUITS SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT BONDING CONDUCTOR.	47.	WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND/OR DELAYS.
11.	INCONSISTENCIES OR DISCREPANCIES IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CLARIFIED WITH THE PROJECT MANAGER PRIOR TO ROUGH IN OR INSTALLATION. IT IS FURTHER UNDERSTOOD THAT THE CONTRACTOR HAS READ AND FULLY UNDERSTANDS THE DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS FOR THIS PROJECT PRIOR TO THE COMMENCEMENT OF WORK. INCLUDING DOCUMENTS OF OTHER DIVISIONS WHICH MAY INTERFERE OR OTHERWISE AFFECT THE WORK OF THIS DIVISION. NO CONSIDERATION WILL BE GRANTED BY REASON OF LACK OF FAMILIARITY ON THE PART OF THIS DIVISION WITH OTHER DOCUMENTS.	25. EQUIPMENT SHALL BE USED RATED FOR THE MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT, REFER TO FEEDER LOAD SUMMARY AND CALCULATIONS TABLES FOR VOLTAGE DROP AND AVAILABLE FAULT CURRENT VALUES. FEEDER LENGTHS SHOWN ARE ESTIMATES FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL DETERMINE ACTUAL LENGTHS BASED ON ROUTING AND FIELD CONDITIONS.	48.	ALL WIRE SHALL BE COPPER.
12.	UNDOER TAKE THE WORK IN ITS ENTIRETY IN ACCORDANCE WITH ITS DESIGN AND PURPOSE. WORK SHALL BE CARRIED OUT IN A PROFESSIONAL MANNER WITH MAXIMUM EFFICIENCY, EXCELLENT WORKMANSHIP AND SHALL MEET THE REQUIREMENTS OF BUT NOT LIMITED TO THE LATEST EDITION FOR THE FOLLOWING: a. CALIFORNIA CODE OF REGULATIONS: - TITLE 8 – INDUSTRIAL RELATIONS (ELEVATOR SAFETY ORDERS) - TITLE 19 – PUBLIC SAFETY - TITLE 22 – SOCIAL SECURITY - TITLE 24 – CALIFORNIA BUILDING STANDARDS CODE, (PARTS 1, 2 (CALIFORNIA BUILDING CODE), 3 (CALIFORNIA ELECTRICAL CODE), 4, 5, 6 (CALIFORNIA ENERGY CODE), 7 THRU 12) b. CALIFORNIA STATE AND LOCAL FIRE MARSHAL c. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE) d. INSTITUTE OF CABLE ENGINEERS ASSOCIATION (ICEA) e. NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION STANDARDS FOR CONSTRUCTION (NECA) f. UNDERWRITERS LABORATORIES, INC. (UL) g. INSTRUMENT SOCIETY OF AMERICA (ISA), i. NPA 72 j. STATE INDUSTRIAL ACCIDENT COMMISSION. k. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) i. NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA) m. AUTHORITIES HAVING JURISDICTION	26. FIELD CONDITIONS SHALL BE LICENSED IN THE STATE OF CALIFORNIA AND WORKERS SHALL BE CERTIFIED IN ACCORDANCE WITH THE DEPARTMENT OF INDUSTRIAL RELATIONS, DIVISION OF APPRENTICESHIP STANDARDS AND CALIFORNIA LABOR CODE SECTION 3099.	49.	WHEN NECESSARY ADJUST FIXTURE PLACEMENT TO FIELD CONDITIONS.
13.	SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COORDINATION OF ELECTRICAL WORK, INCLUDING BUT NOT LIMITED TO CHARGES BY STATE, COUNTY, CITY, AND LOCAL GOVERNMENT AND AGENCIES. OBTAIN REQUIRED CERTIFICATES OF INSPECTION FOR THE ELECTRICAL WORK AND DELIVER SAME TO THE BEFORE REQUESTING ACCEPTANCE AND FINAL PAYMENT FOR WORK.	27. PRIOR TO PLANNING EXCAVATION WORK, RETAIN THE SERVICES OF AN INDEPENDENT ELECTRONIC LOCATOR SERVICE TO PROVIDE THE EXACT LOCATION OF UNDERGROUND UTILITY SERVICES AND VERIFY POSSIBLE CONFLICTS WITH THAT WHICH IS INDICATED ON THE SITE OR OTHER UTILITY DRAWINGS. REPORT CONFLICTS TO THE OWNER AND ARCHITECT WITHIN 5 DAYS OF THE COMPLETION OF THE SURVEY.	50.	RECEPTABLES SHALL BE 20 AMPERE, HEAVY DUTY, UNLESS OTHERWISE NOTED.
14.	CAREFULLY LAY OUT WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR SURFACE FINISHES. STRUCTURAL MEMBERS SHALL NOT BE CUT OR DRILLED WITHOUT APPROVAL. HOWEVER, WHERE SUCH WORK IS NECESSARY PROVIDE CUTTING, CORING AND PATCHING OF THE CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK. PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH, AND SHALL ACCURATELY MATCH SURROUNDING WORK. AFTER COMPLETION OF WORK, CLEAN UP RESULTANT DEBRIS AND REMOVE FROM SITE.	28. PROVIDE WIRING FOR EQUIPMENT FURNISHED BY OTHER DIVISIONS. THIS "FIELD WIRING" AS USED HEREIN, INCLUDES FURNISHING, INSTALLING CONDUIT, WIRE, JUNCTION BOXES, DISCONNECTS ETC., AND MAKING CONNECTIONS TO THE EQUIPMENT. BE RESPONSIBLE FOR PROPER WIRING AND NECESSARY ELECTRICAL ADJUSTMENTS TO EQUIPMENT CONFORMING TO SPECIFIED REQUIREMENTS OF THE EQUIPMENT. REVIEW DRAWINGS OF OTHER DISCIPLINES TO ASCERTAIN THE REQUIREMENTS OF EQUIPMENT BEING FURNISHED AND/OR INSTALLED BY THAT DIVISION PRIOR TO BID. COORDINATE EXACT DETAILS AND LOCATIONS OF EQUIPMENT AND DEVICES PRIOR TO ROUGH IN WITH OTHER DIVISIONS. PROVIDE FLUSH MOUNTED BACKBOXES AND FAULT CIRCUIT INTERRUPTER (FCI		

	LOW VOLTAGE			POWER		
ELECTRICAL SYMBOLS	A/V CONTROL STATION WITH A/V INPUT OUTLET BELOW PROJECT A/V OUTLET CLOCK OUTLET – WALL MOUNTED, FLUSH TELEPHONE OUTLET, FLUSH MOUNTED WITH CONDUIT AND CABLE UON COMBINATION DATA/TELEPHONE OUTLET – FLUSH MOUNTED W/ 1" CONDUIT TO ACCESSIBLE CEILING DUPLEX DATA OUTLET – FLUSH MOUNTED WITH CONDUIT CABLE(S) UON – W/ CONDUIT TO ACCESSIBLE CEILING FOR FUTURE COMBO PROJECTOR/TEACHER OUTLET BOX FLUSH MOUNTED EITHER IN CEILING OR WALL – "C"=FLUSH CEILING MOUNTED CALL BUTTON FUTURE CAMERA SPEAKER OUTLET – WALL MOUNTED, FLUSH, WP = WEATHER PROOF MICROPHONE OUTLET – WALL MOUNTED, FLUSHED TEMPERATURE SENSOR/THERMOSTAT – WALL MOUNTED – PROVIDE FLUSH BACK BOX AND 3/4" CONDUIT ONLY TO ACCESSIBLE CEILING SPACE USB SMARTBOX OUTLET MICROPHONE OUTLET – FLOOR MOUNTED, FLUSHED			RECEPTACLE – FLUSH WALL MOUNTED DUPLEX (NEMA 5–20R UNO) TAMPER RESISTANT, NUMERAL INDICATES CIRCUIT NUMBER RECEPTACLE – FLUSH WALL MOUNTED DOUBLE DUPLEX (NEMA 5–20R UNO), TAMPER RESISTANT RECEPTACLE – FLUSH WALL MOUNTED, GROUND FAULT CIRCUIT INTERRUPTING (GFCI), DUPLEX (NEMA 5–20R UNO), TAMPER RESISTANT RECEPTACLE (NEMA 5–204 UNO) – CEILING, FLUSH, TAMPER RESISTANT RECEPTACLE (NEMA 5–20R UNO) – FLOOR, FLUSH, TAMPER RESISTANT RECEPTACLE – SPECIFIC – NEMA RATING INDICATED FLUSH MOUNTED RECEPTACLE – SPECIFIC – NEMA CONFIGURATION INDICATED–FLOOR MOUNTED, FLUSH DISCONNECT SWITCH – NON–FUSED 30 AMP, 3P UNO DISCONNECT SWITCH – FUSED 30 AMP, 3P UNO, AS – AMPERE SWITCH, AF – AMPERE FUSE COMBINATION MAGNETIC MOTOR STARTER WITH OVERLOADS CONNECTION TO GROUND COPPER CLAD GROUND ROD – 3/4" DIA. X 10'–0" LONG MAGNETIC MOTOR STARTER WITH OVERLOADS MANUAL MOTOR STARTER WITH OVERLOADS – oo=PILOT LIGHT, HORSEPOWER RATING AND OVERLOAD SIZED FOR MOTOR CONTROLLED TIMECLOCK AND CONTACTORS PANEL BRANCH PANEL – FLUSH MOUNTED BRANCH PANEL – SURFACE MOUNTED MAIN OR DISTRIBUTION SWITCHBOARD CABINET OR CONTROL PANEL – WALL MOUNTED, SURFACE CIRCUIT BREAKER (SINGLELINE), 3P UNO, SEE PLANS FOR ADDITIONAL REQUIREMENTS METER MOTOR, PROVIDED BY DIVISION 22 OR 23, X DENOTES HORSEPOWER GROUND FAULT INTERRUPTING MODULE OR DEVICE (SINGLELINE) SHUNT TRIP MODULE OR DEVICE (SINGLELINE) TRANSFORMER		
MISCELLANEOUS	JUNCTION BOX – CEILING MOUNTED, SURFACE JUNCTION BOX – WALL MOUNTED, FLUSH – WP=WEATHER PROOF JUNCTION BOX – FLOOR MOUNTED, FLUSH PULL BOX – FLUSH OR SURFACE MOUNTED – SIZE PER CCC WIRELESS MICROPHONE RECEIVER PRIORITY PAGE SENSOR METALLIC COMBINATION FLOOR BOX WITH 2-GANG COVER PLATE – FLOOR MOUNTED FLUSH – (2) WIREMOLD #88052 WITH #827B FLANGE "A"=PROVIDE (2) #828R AND #828 GFI TC COVERS (SSCP TABLES) "B"=PROVIDE #828 SPTC AND #829 STC COVERS (ATM AND PHONE) RECESSED LARGE CAPACITY FLOOR BOX WITH BRASS COVER – FLOOR MOUNTED, FLUSH – (2) WIREMOLD #8FB9 WITH #8FB119 BTICAL COVER (SSCP) NON–METALLIC COMBINATION FLOOR BOX WITH FLANGED COVER – FLOOR MOUNTED, FLUSH (SLAB ON GRADE) – (2) WIREMOLD #880MP, "A"=PROVIDE (2)#830KITAL–3/4" COVERS AND #828BTICAL FLANGE, "B"=PROVIDE #828S AND #828 GFI TC COVERS AND #827B FLANGE, "C"=PROVIDE SINGLE #880MP WITH #880CKTAL–3/4" COVER (POWER ONLY) FURNITURE FEED FLOOR POKE THRU WITH CONDUIT CONNECTIONS – FLOOR MOUNTED, FLUSH – (2) WIREMOLD #4AFFATC BS, "A"=FLEX CONNECTION FOR POWER AND DATA, "B"=FLEX CONNECTION FOR POWER ONLY FIRE RATED PARTITION SEISMIC JOINT – REFER TO SPECIFICATIONS					
LEGEND	(DRAWINGS) FA FIRE ALARM FACP FIRE ALARM CONTROL PANEL FAPS FIRE ALARM POWER SUPPLY FATC FIRE ALARM TERMINAL CABINET FBO FURNISHED BY OTHER DIV. OF WORK FFR FEEDER FIXT FIXTURE FL FLOOR FLEX FLEXIBLE FPL(S) FIRE ALARM POWER LIMITED (SHIELDED) FS FLOW SWITCH FT FEET/FOOT G GROUND GFI GROUND FAULT INTERRUPTION GRS GALVANIZED RIGID STEEL CONDUIT HH HANDHOLE HID HIGH INTENSITY DISCHARGE HOA HAND OFF AUTOMATIC HP HORSE POWER, HEAT PUMP HZ HERTZ IC INTERRUPTING CAPACITY IDF INTERMEDIATE DISTRIBUTION FRAME IMC INTERMEDIATE METALLIC CONDUIT JB JUNCTION BOX KCML THOUSAND CIRCULAR MILS KVA KILOVOLT AMPERES KW KILOWATT LWH KILOWATT-HOUR LCP LIGHTING CONTROL PANEL LV LOW VOLTAGE M METER MAX MAXIMUM MCA MINIMUM CIRCUIT AMPACITY MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MDF MAIN DISTRIBUTION FRAME MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MLO MAIN LUG(S) ONLY MOP MAXIMUM OVERCURRENT PROTECTION MSB MAIN SWITCHBOARD MTD MOUNTED (N) NEW NC NEUTRAL NEC NORMALLY CLOSED NEMA NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	NETA NFPA NIC NL NO NTS OC OFCI INSTALLED PA PB PH,Φ PM PNL PT PV PVC PWR (R) REC RECEIPT RGS (RL) RSC SAD SMD SN SPCS SPKR SPST SSD STBY STC SW T TEL TEMP THERM TRANSF TS TTB TV TYP UGPS U/G	INTERNATIONAL ELECTRICAL TESTING ASSOCIATION NATIONAL FIRE PROTECTION ASSOCIATION NOT IN CONTRACT NIGHT LIGHT NORMALLY OPEN NOT TO SCALE ON CENTER OWNER FURNISHED: CONTRACTOR PUBLIC ADDRESS PULL BOX PHASE PLUS MOLD PANEL POTENTIAL TRANSFORMER PHOTOVOLTAIC POLYVINYL CHLORIDE DUCT POWER REMOVE RECESSED RECEPTACLE RIGID GALVANIZED STEEL RELocate RIGID STEEL CONDUIT SEE ARCHITECTURAL DOCUMENTS SEE MECHANICAL DRAWINGS SOLID NEUTRAL SPECIFICATIONS SPEAKER SINGLE POLE SINGLE THROW SEE STRUCTURAL DOCUMENTS STANDBY SIGNAL TERMINAL CABINET SWITCH TRANSFORMER TELEPHONE TEMPERATURE THERMOSTAT TRANSFORMER TAMPER SWITCH TELEPHONE TERMINAL BOARD TELEVISION TYPICAL UNDERGROUND PULL SECTION UNDERGROUND	W/ WITH W/O WITHOUT WP WEATHERPROOF XFMR TRANSFORMER UL UNDERWRITERS LABORATORIES UNO UNLESS NOTED OTHERWISE UON UNLESS OTHERWISE NOTED V VOLT/VOLTAGE VA VOLT AMPERE(S) VDC VOLTAGE DIRECT CURRENT VM VOLT METER W WATT		
SHEET INDEX:	E000 LEGEND, NOTES & SYMBOLS E200 LIGHTING PLANS E300 POWER PLANS E301 ROOF PLAN – POWER & SIGNAL E400 SINGLE LINE DIAGRAM & SCHEDULES E500 ELECTRICAL DETAILS EN1 T24 ENERGY COMPLIANCE DOC	INFRINGEMENT NOTE: IN MY PROFESSIONAL JUDGEMENT, WORK SHOWN ON THIS DOCUMENT DOES NOT INFRIERGE UPON THE EXISTING LIFE SAFETY SYSTEM FOR THIS BUILDING.	SCOPE OF WORK: GENERAL LIGHTING REMODEL, HVAC REPLACEMENT INCLUDING REMOVE / REPLACEMENT OF OLD GAS AND ELECTRICAL KITCHEN STOVE WITH NEW IN ADMIN AND CLASSROOM BUILDINGS. ADD ALTERNATE: REMOVE AND REPLACE CLASSROOM & ADMIN MPR FLUORESCENT LIGHTING FIXTURES WITH NEW LINEAR LED INCLUDING EXTERIOR SCENES.			

E000



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

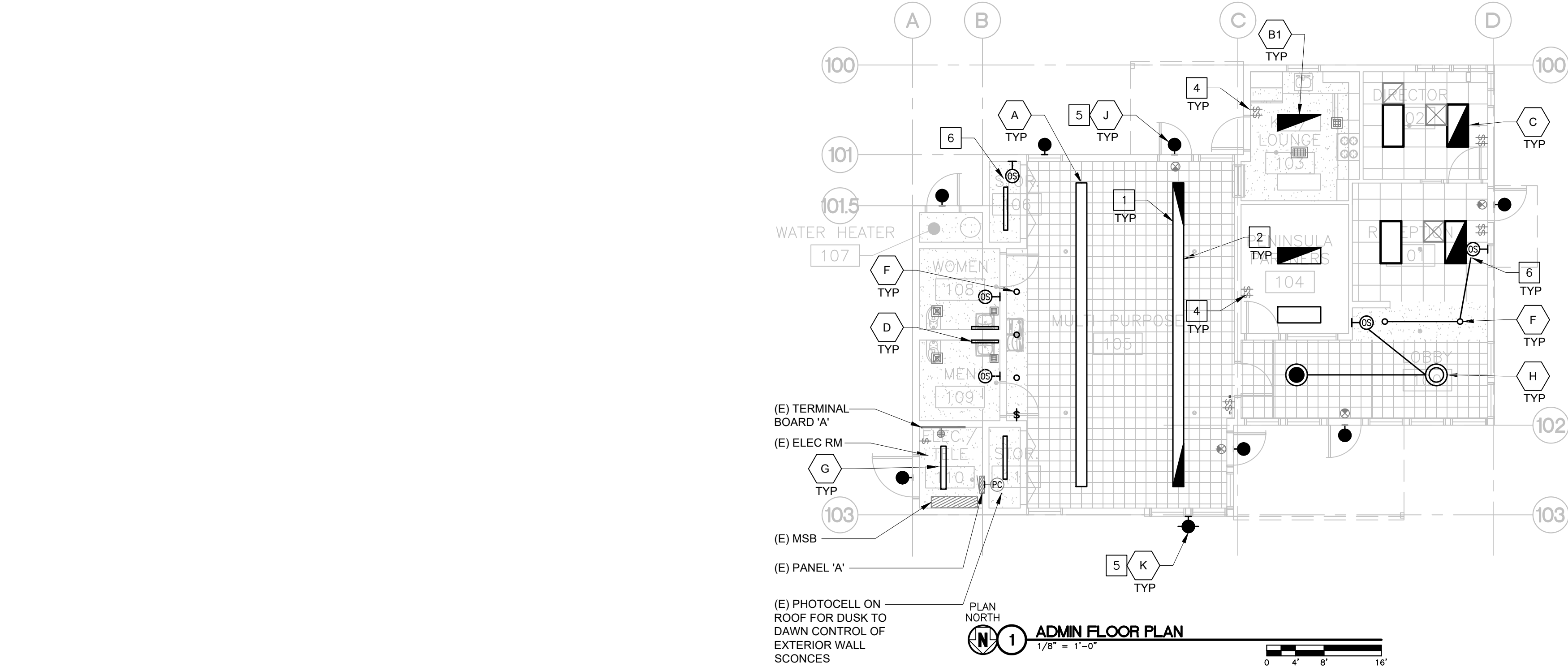
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LIGHTING

Sheet Number:

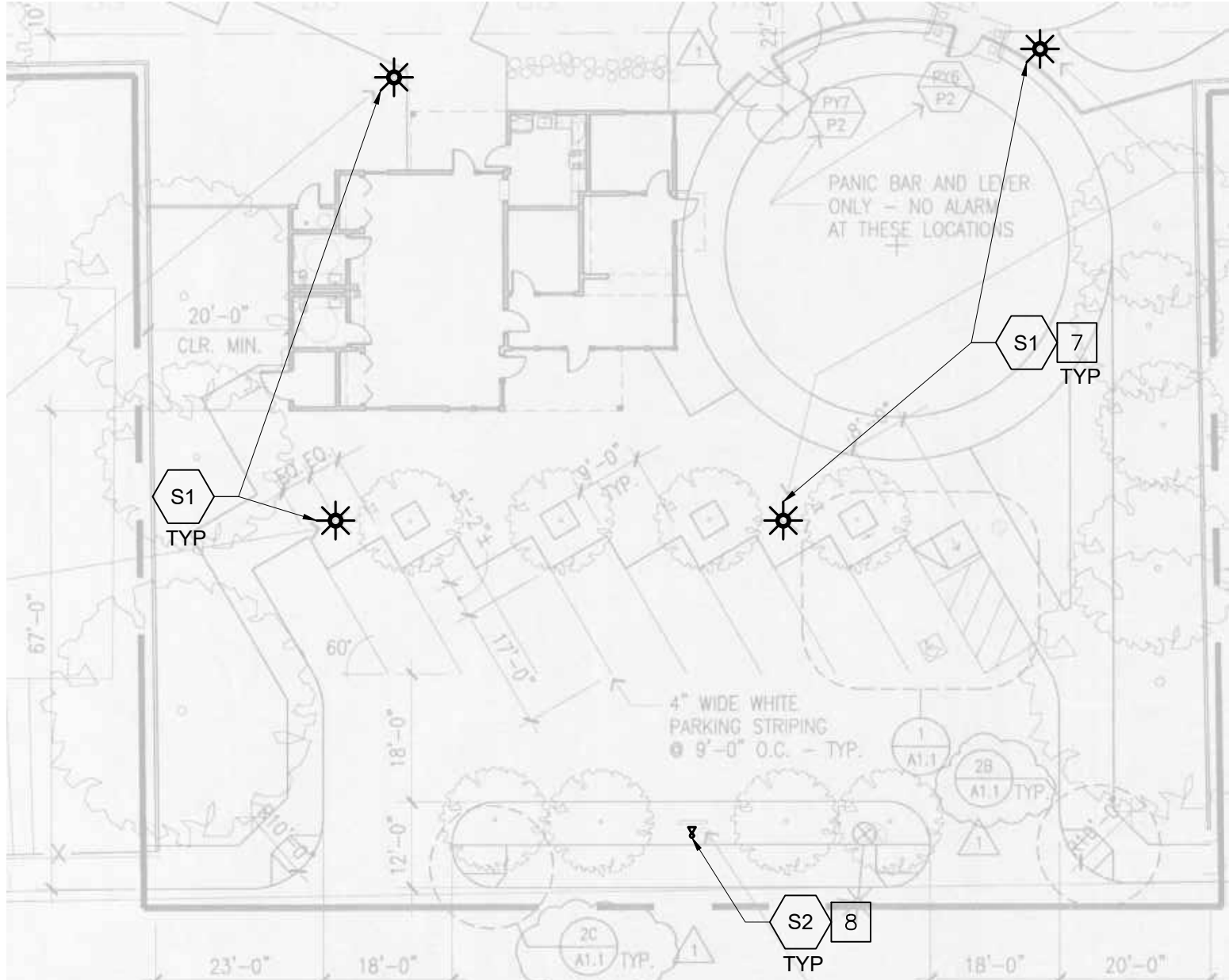
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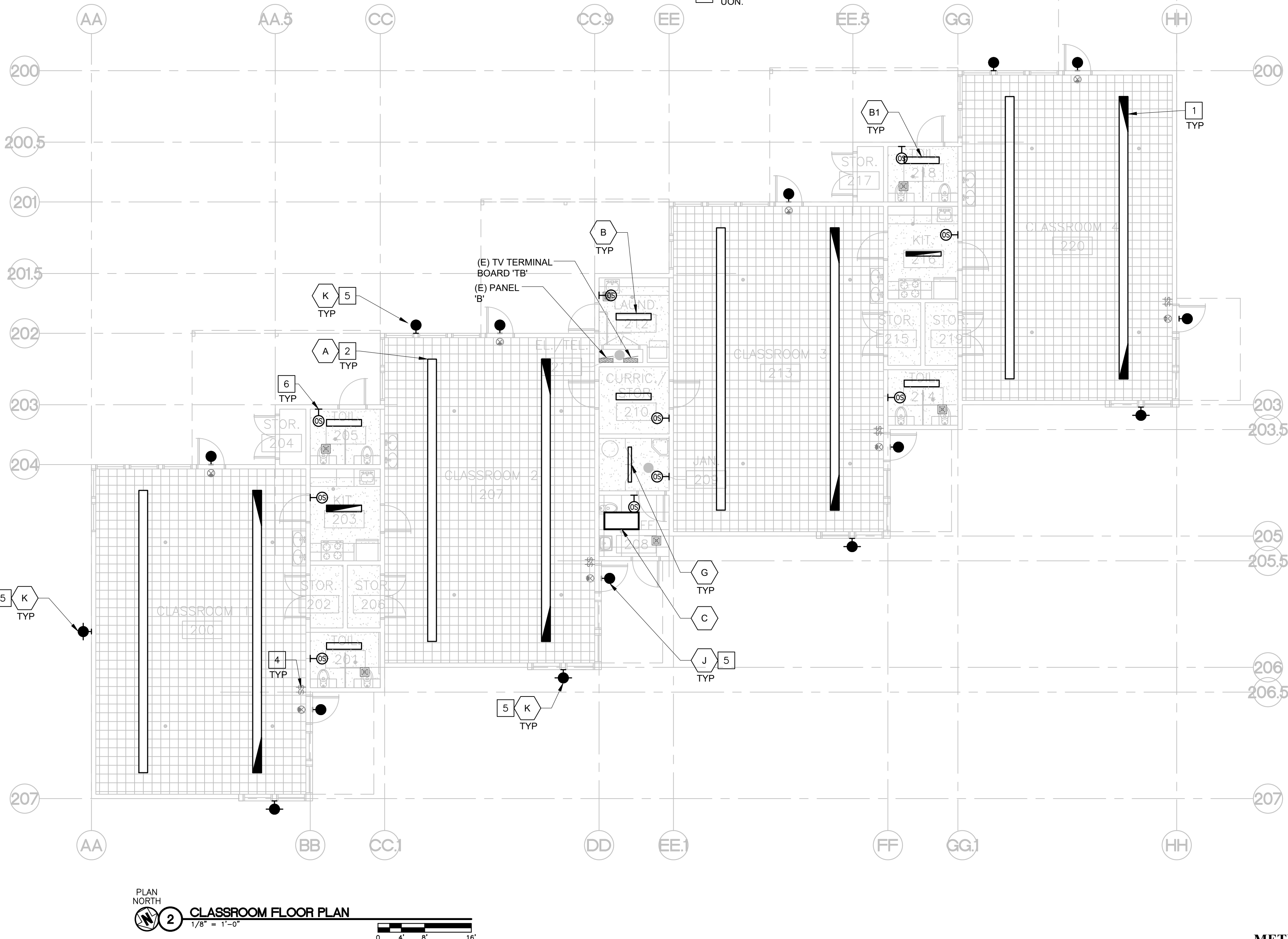
LIGHTING FIXTURE SCHEDULE ①								
TAG	SYMBOL	DESCRIPTION	MANUFACTURER	VOLTAGE	WATTAGE	QTY & LAMP TYPE	MOUNT	REMARKS
S1	☼	(E) SHOEBOX POLE LIGHT	SPAULDING LTG #CE/250MH	120V	100W	LED (E) POLE		USE LED KIT
S2	⌘	(E) DIRECTIONAL UPLIGHT	KIM LTG #AFL-1/100MG/ED17	120V	40W	LED (E) GROUND		USE LED KIT

KEY NOTES (CONTINUED):

- 7 SIMILAR TO NOTE 2 ABOVE EXCEPT 100W LED E39 MOGUL BASE, BALLAST BYPASS (TYPE B). COORDINATE WITH LAMP VENDOR AS REQUIRED.
- 8 SIMILAR TO NOTE 7 ABOVE EXCEPT 40W LED.



PLAN NORTH
3 PART SITE PLAN - LIGHTING
NTS



PLAN NORTH
2 CLASSROOM FLOOR PLAN
1/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE ①								
TAG	SYMBOL	DESCRIPTION	MANUFACTURER	VOLTAGE	WATTAGE	QTY & LAMP TYPE	MOUNT	REMARKS
A		DIR/IND PENDANT LINEAR LTG WITH (N) HYBRID LED KIT, LENGTH TO MATCH EXISTING	NEORAY DIP, 92 SERIES PID-90-4-PARSSTW	120V	(4)18W	LED 3500K	PENDANT	SEE ALTERNATE FIXTURE 6/E500
B		1X4 SLIM SURFACE WRAPAROUND WITH (N) HYBRID LED KIT	DAYBRITE CAN 232	120V	(2)18W	LED 3500K	SURFACE	
C		2X4 RECESSED TROFFER WITH (N) HYBRID LED KIT, SMOOTH REFLECTOR	DAYBRITE 2PG4-A332	120V	(3)18W	LED 3500K	RECESSED	
D		LED VANITY LIGHT, WITH (N) HYBRID LED KIT	DAYBRITE CD225	120V	(2)18W	LED 3500K	SURFACE	
F		RECESSED DOWNLIGHT, WITH (N) CFL RETROFIT KIT, MATCHING UPPERURE	PRESCOLITE LTG TO-70S	120V	8W	LED 3500K	RECESSED	
G		STRIP LED WITH EMERGENCY PACK	DAYBRITE N132	120V	18W	LED 3500K	SURFACE	
H		SURFACE PENDANT INV BOWL, WITH (N) HYBRID LED KIT	SHAPER LTG 4328K-CF4/39	120V	(4)18W	LED 3500K	SURFACE	
B1		SIMILAR TO TYPE "B" EXCEPT NUMBER OF LAMPS	DAYBRITE CAN 232	120V	(3)18W	LED 3500K	SURFACE	
J		EXTERIOR SCONCE WITH RETROFIT LED KIT	BEGA 2824PWH	120V	6W	LED 3500K	SURFACE	SEE ALTERNATE FIXTURE 4/E500
K		SIMILAR TO TYPE "J" EXCEPT WATTAGE	BEGA 299PWH	120V	(2)10W	LED 3500K	SURFACE	SEE ALTERNATE FIXTURE 4/E500

- ① NOTES: 1. SHADED FIXTURE INDICATES UNIT WITH EMERGENCY BATTERY PACK UNIT, BODINE 50 OR APPROVED EQUAL.
2. FINAL FIXTURE SELECTION BY ARCH'T.

KEY NOTES:

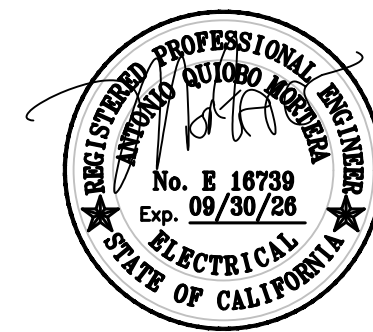
- 1 UNIT WITH INTEGRAL BATTERY PACK.
- 2 USE EXISTING HOUSING AND PROVIDE UL LISTED VENDOR HYBRID LED KIT. AS MANUF BY PHILIPS OR G.E. EQUAL. UON. FOR ALTERNATE 1 - REPLACE (E) FIXTURES WITH NEW LINEAR LED.
- 3 (E) EXIT SIGN TO REMAIN, UON.
- 4 USE (E) TOGGLE SW FOR LTG CONTROL, UON.
- 5 CONNECT TO (E) CKT CONTROLLER BY THE (E) PHOTOCELL ON ROOF, UON.
- 6 REPLACE TOGGLE SW WITH (N) VACANCY SENSOR AS SHOWN, UON.

GENERAL NOTE:

CONTRACTOR SHALL PROVIDE FIELD MOCK UP OF CLASSROOM & ADMIN MPR LIGHTING RETROFIT AT MINIMUM 10X10 AREA WITHIN CLASSROOM SPACE FOR EXISTING LIGHTING FIXTURES TO BE RETROFITTED AS PART OF BASE BID. CITY TO VERIFY IF LED RETROFIT KIT IS ACCEPTABLE OR IF NEW LED FIXTURES WILL REPLACE EXISTING FIXTURES IN KIND.



METRO POWER ENGINEERS, INC.
3150 HILLTOP MALL ROAD, SUITE 22
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TEL: 510.275.3000 FAX: 510.275.3002



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

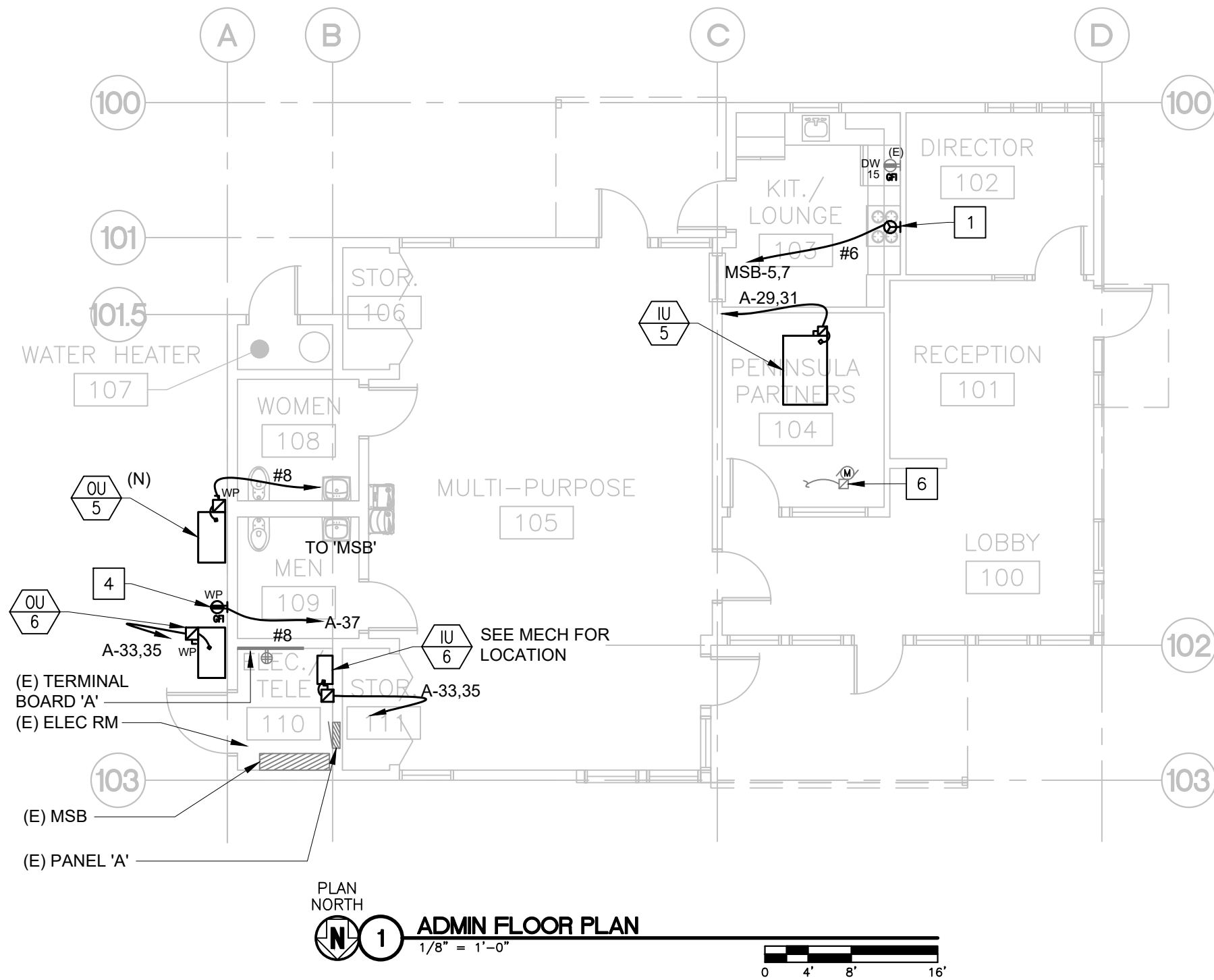
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POWER + SIGNAL

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E300



KEY NOTES:

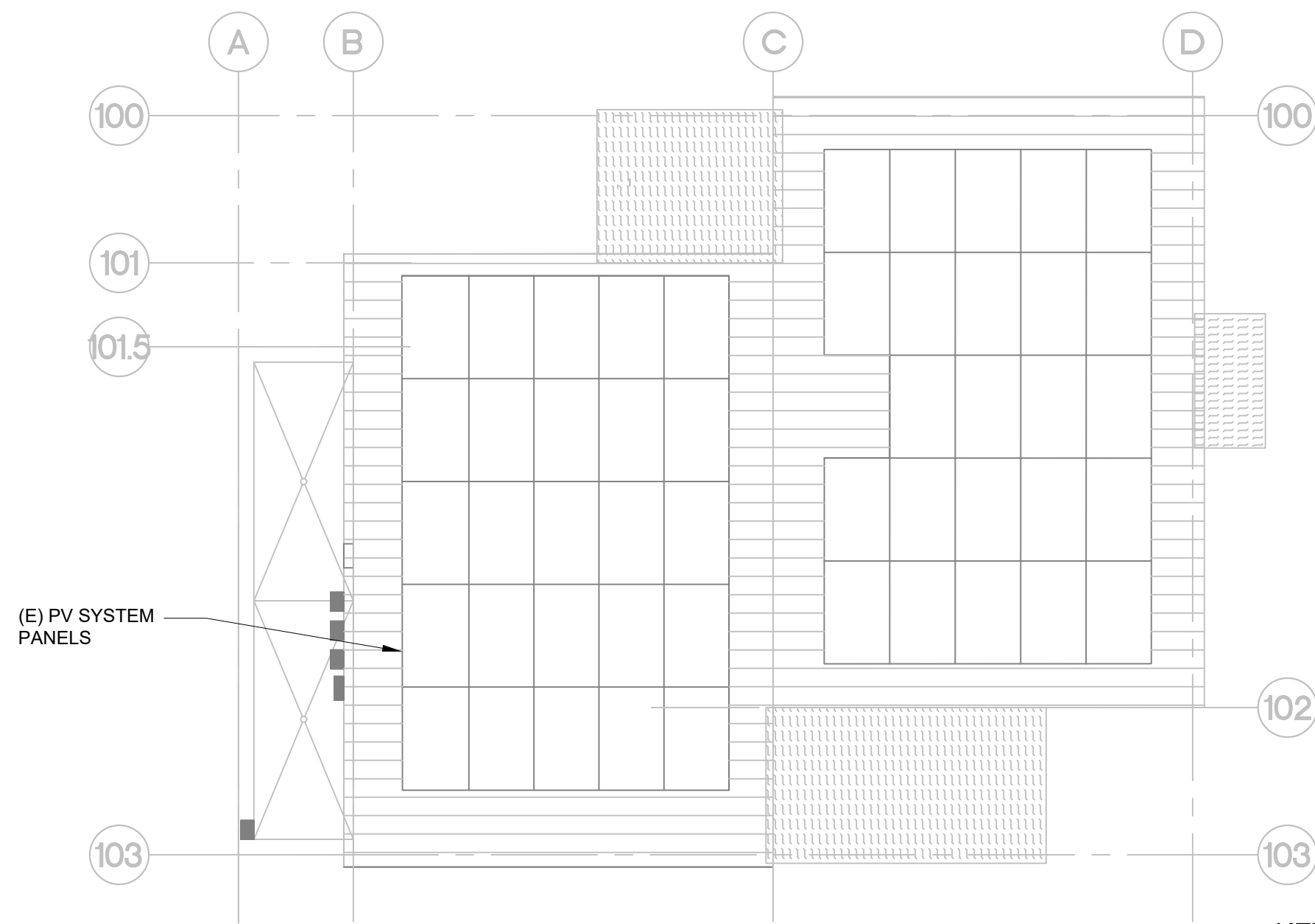
- 1 REPLACE (E) GAS STOVE WITH (N) ELECTRIC STOVE. SEE ARCHTL SPECS.
- 2 REPLACE (E) ELECTRIC STOVE WITH (N) ELECTRIC STOVE.
- 3 (N) UNIT REPLACING (E).

- 4 (N) WP GFCI RECEPTACLE WITH HEAVY DUTY 'WHILE-IN USE' COVER AS MANUF BY HUBBELL MX1050W OR APPROVED EQUAL.
- 5 (E) DEDICATED RECEPT FOR (N) DISHWASHER. SEE ARCHTL SPECS.
- 6 (R) OLD FURNACE UNIT. SEE MECH.

MISCELLANEOUS EQUIPMENT SCHEDULE								
TAG	DESCRIPTION	LOAD	VOLT	CONTROLS	STARTER	DISC. MOTOR DISC. TP FUSE	REMARKS	
IU 1	INDOOR VRV UNIT 1	6.5 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 15		
IU 2	INDOOR VRV UNIT 2	6.5 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 15		
IU 3	INDOOR VRV UNIT 3	6.5 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 15		
IU 4	INDOOR VRV UNIT 4	6.5 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 15		
IU 5	INDOOR VRV UNIT 5	6.5 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 15		
OU 1	OUTDOOR VRV UNIT 1	29.0 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 30		
OU 2	OUTDOOR VRV UNIT 2	29.0 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 30		
OU 3	OUTDOOR VRV UNIT 3	29.0 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 30		
OU 4	OUTDOOR VRV UNIT 4	29.0 MCA	230 1ø 60Hz	BY MECH	INTEG	30/2ø 30		
OU 5	OUTDOOR VRV UNIT 5	34.6 MCA	230 1ø 60Hz	BY MECH	INTEG	60/2ø 35		
IU 6	INDOOR VRV UNIT 6	11.6 MCA	230 1ø 60Hz	BY MECH	INTEG	- -	POWERED BY OUG	
OU 6	OUTDOOR VRV UNIT 6	11.6 MCA	230 1ø 60Hz	BY MECH	INTEG	30 15		

Ⓢ VERIFY FUSE SIZE WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.





KEY NOTES:

- 1 PROVIDE (N) WP, 30A/2P HD EQUIPMENT DISCONNECT SW WITH REQUIRED FUSES. SEE SCHEDULE ON E300, UON.
- 2 (N) WP GFCI RECEPTACLE WITH HEAVY DUTY 'WHILE-IN-USE' COVER AS MANUF BY HUBBELLMX1050W OR APPROVED EQUAL.
- 3 USE (E) CONDUIT STUB ON ROOF WITH A HOMERUN TO PANEL 'B' FOR THE PROPOSED MECH UNIT. FIELD VERIFY EXACT LOCATION.



MPE

METRO POWER ENGINEERS, INC.

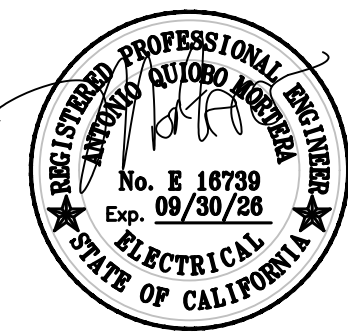
3150 HILLTOP MALL ROAD, SUITE 25
RICHMOND, CA 94806
TEL: 510.275.3000 FAX: 510.275.3002

KPA ENGINEERS ARCHITECTS

THE KPA GROUP

1840 FOURTH STREET, 2ND FLOOR
LIVERMORE, CALIFORNIA 94550
TEL 925.223.8217 www.thekpagroup.com

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CITY OF MENLO PARK

BELLE HAVEN CHILD DEVELOPMENT CENTER

ELECTRIFICATION PROJECT

410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330

City Project Number: CFB025

KPA Project Number: 823.00

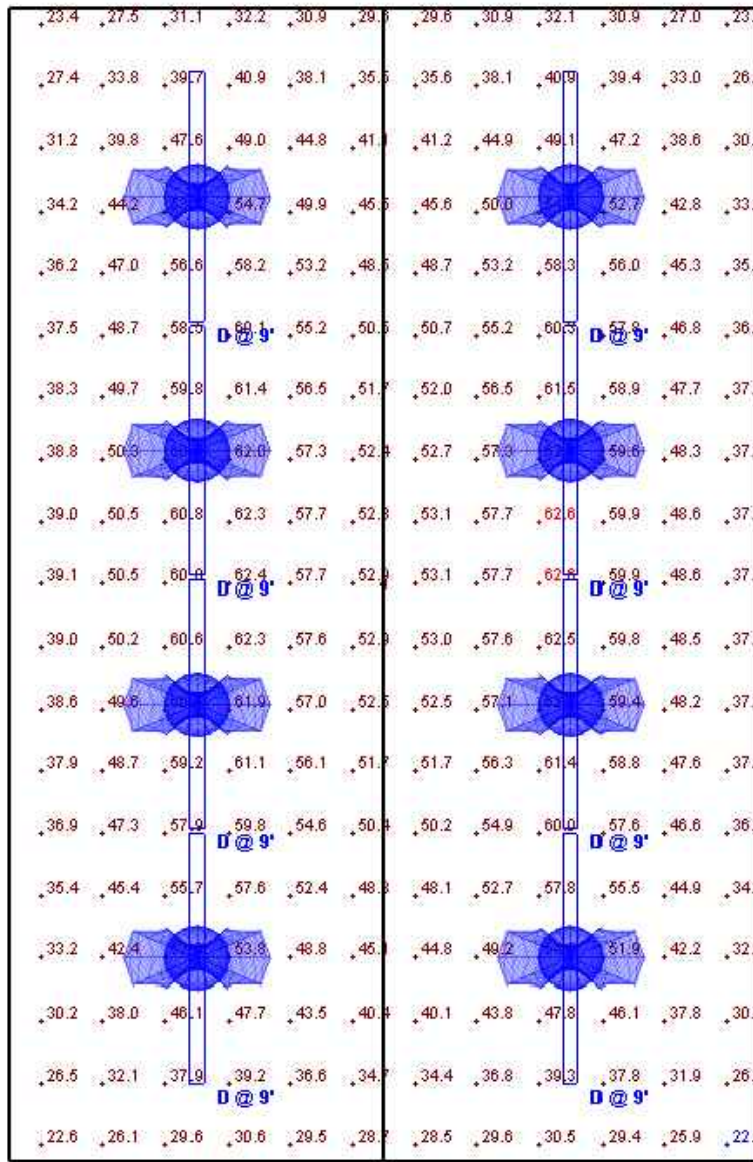
Date: APR 10, 2026

Sheet Title:

ROOF PLAN-
POWER + SIGNAL

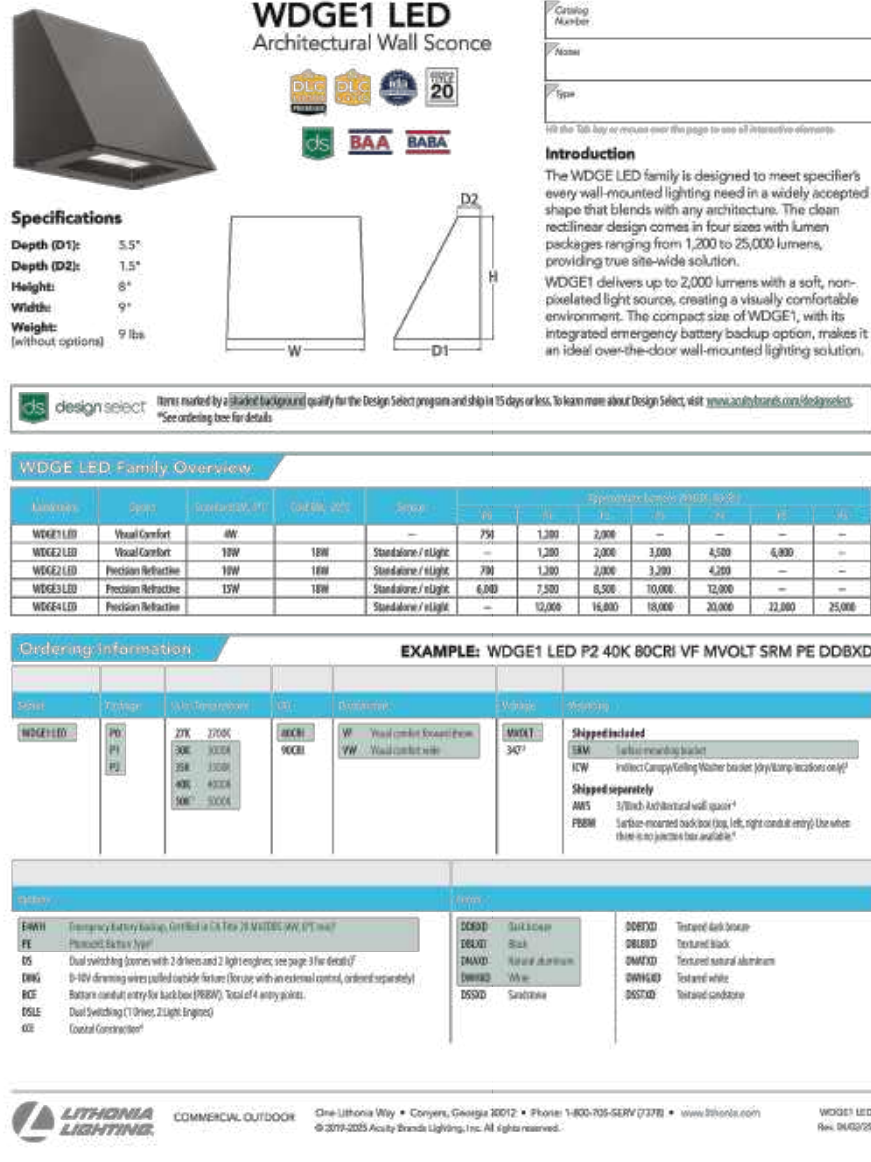
Sheet Number:

E301



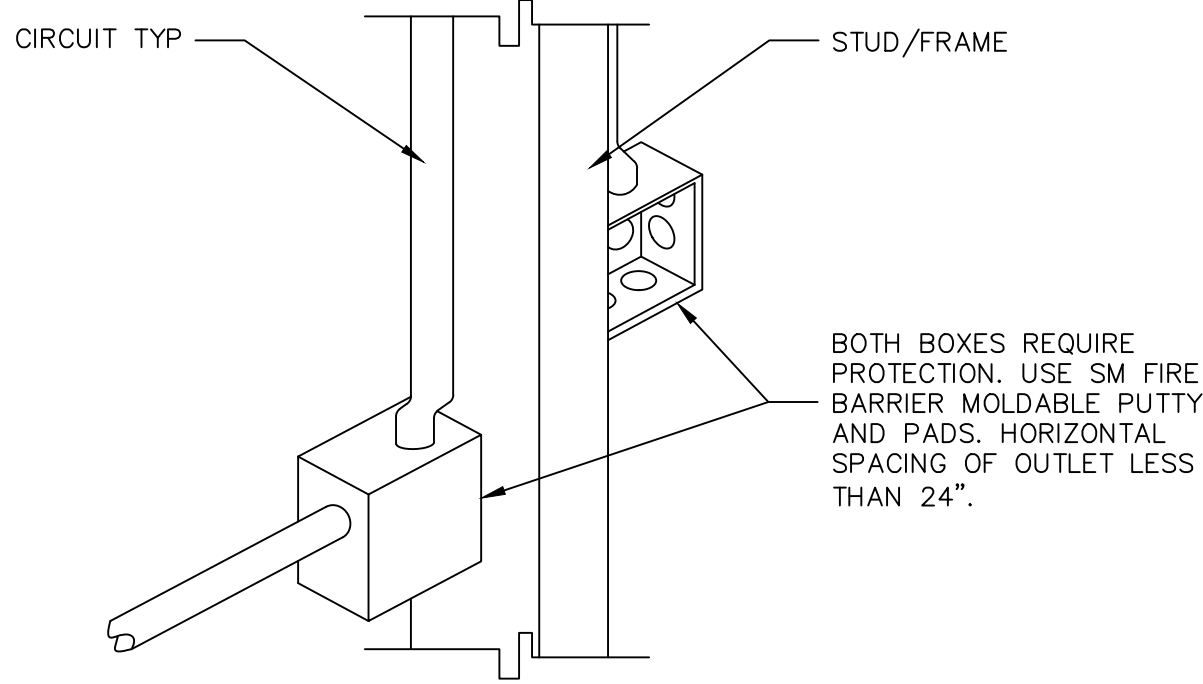
7 ALTERNATE CLASSROOM /MPR LTG PHOTOMETRICS

N.T.S.



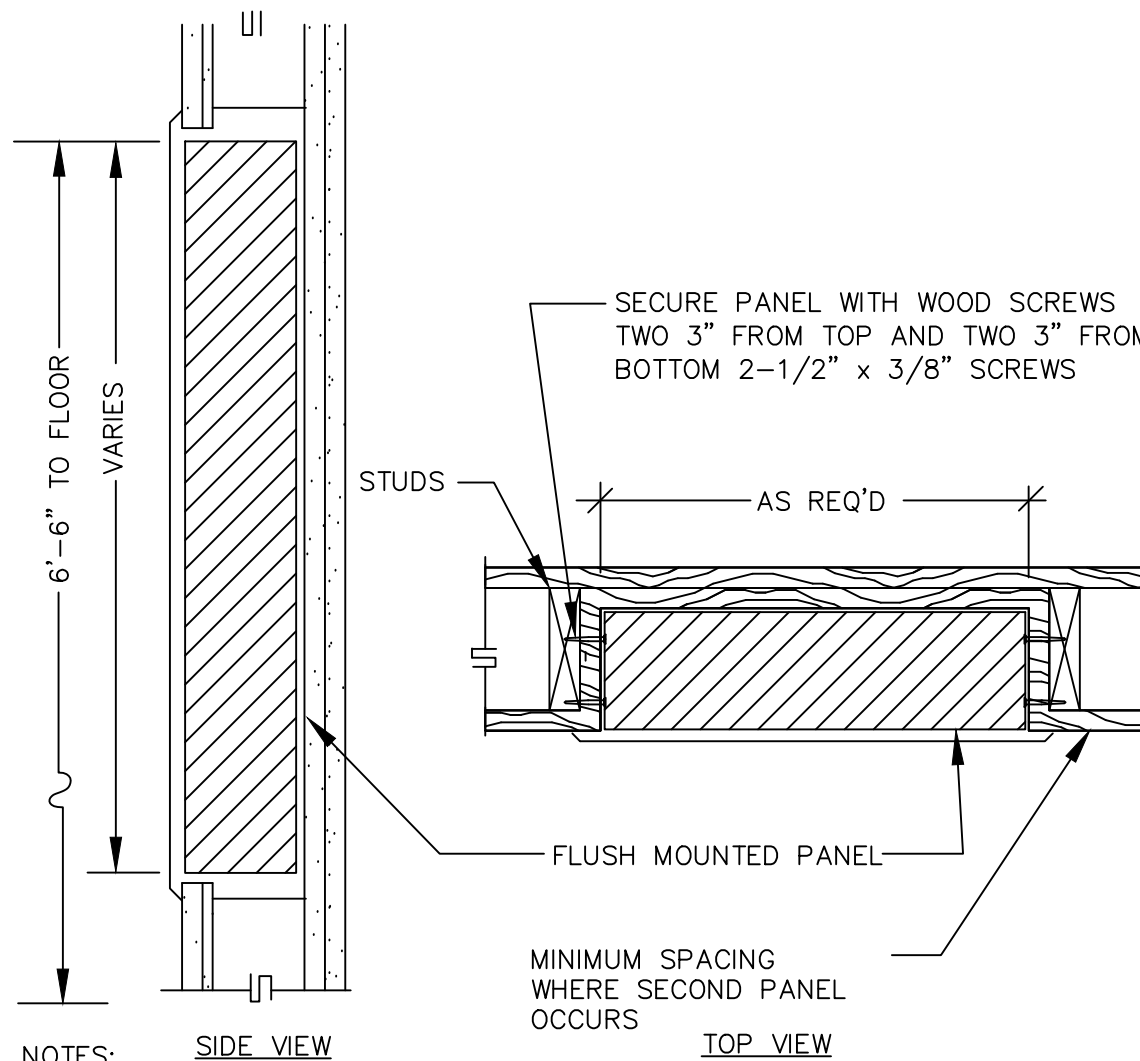
4 ALTERNATE WP SCONCE

N.T.S.



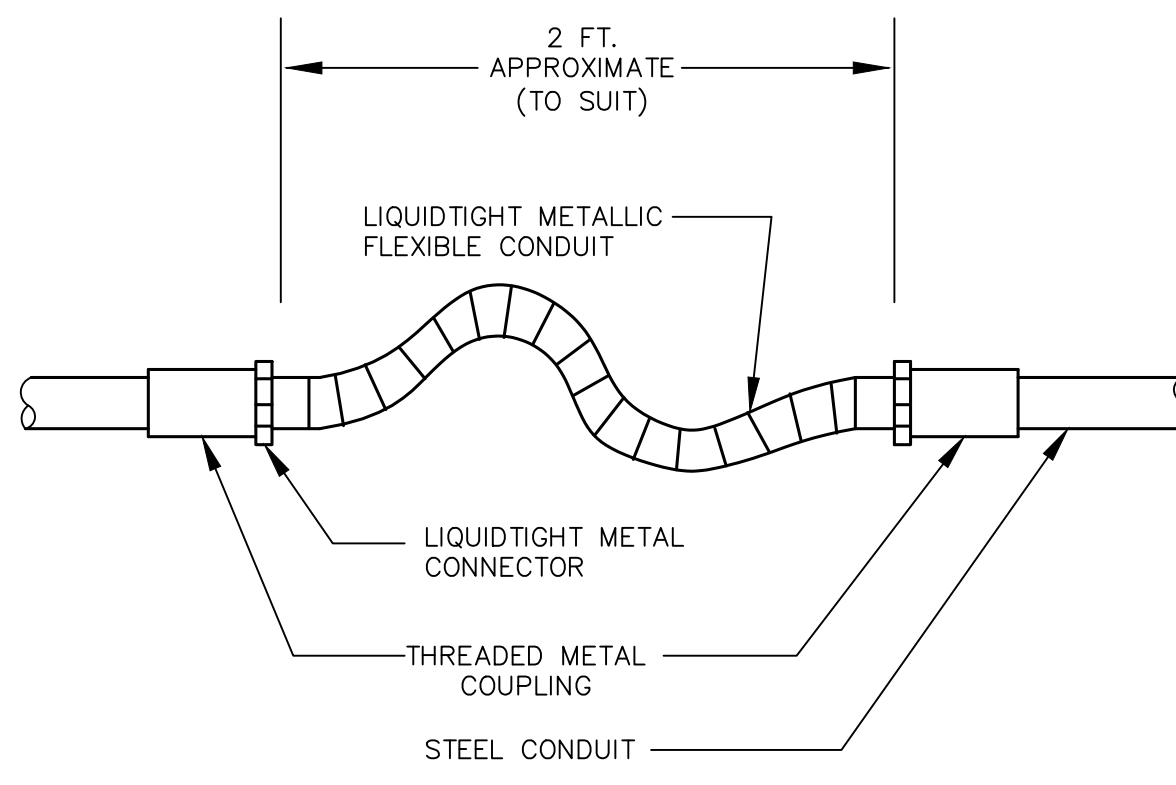
1 FIRE RATED WALL - OUTLET <24" HORIZONTAL SPACING

N.T.S.



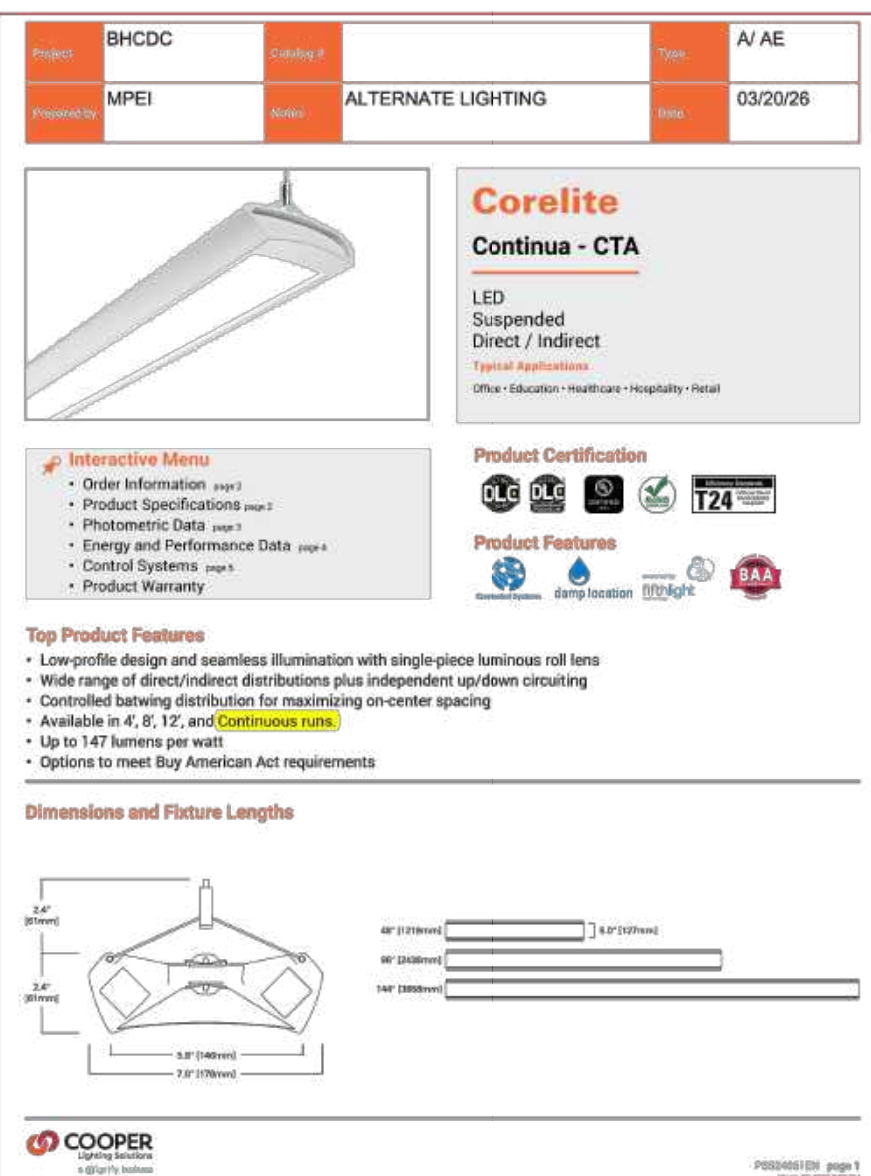
5 FLUSH MOUNTED PANELBOARD DETAIL

N.T.S.



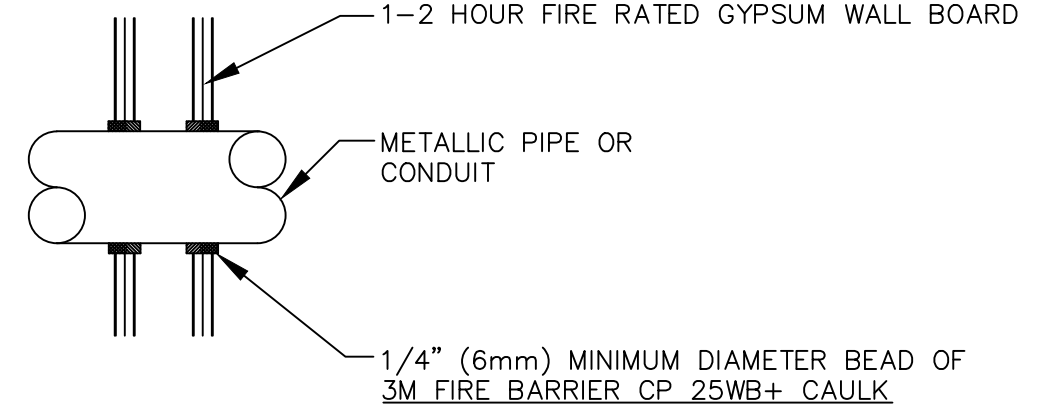
2 FLEXIBLE CONDUIT/EXPANSION SECTION

N.T.S.



6 ALTERNATE CLASSROOM / MPR LIGHTING

N.T.S.



1. THE CAULK IS TO BE FORCED INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD OF CP 25WB+ CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5 mm).
4. INSTALL 3M FIRESTOP ON BOTH SIDES OF THE WALL.
5. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL THROUGH-PENETRATION FIRESTOP SYSTEM #WL1001.

3 FIRESTOP PENETRATION DETAIL

N.T.S.



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330
City Project Number: CFB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:
ELECTRICAL DETAILS

Sheet Number:



CITY OF MENLO PARK
BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT
410 IVY DRIVE, MENLO PARK, CA 94025

Revisions:

APN Number: 055-363-330
City Project Number: CFB025
KPA Project Number: 823.00
Date: APR 10, 2026

Sheet Title:
TITLE 24 COMPLIANCE
DOCUMENTATION

Sheet Number:

EN1

METRO POWER ENGINEERS, INC.
3150 HILLTOP MALL ROAD, SUITE 22
RICHMOND, CA 94806
TEL: 510.275.3000 FAX: 510.275.3002



ALTERNATE ONLY

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Project Name: BelleHaven 'Child Development Center
Report Page: (Page 3 of 8)
Date Prepared: 2026-02-03T09:45:25-05:00

F. INDOOR LIGHTING FIXTURE SCHEDULE
This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.
Designed Wattage: Conditioned Spaces
Table with 10 columns: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10. Rows include Name or Item Tag, Complete Luminaire Description, Modular (Track) Fixture, Small Aperture & Color Change, Watts per luminaire, How is Wattage determined, Total Number of Luminaires, Excluded per §140.6(a)(3) / §170.2(e)(2)C, Design Watts, Field Inspector Pass/Fail.
Footnote: *Footnote: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)(4B) / §170.2(e)(2)D is adjusted to be 75%/80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.
Footnote: *Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) / §160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.
G. MODULAR LIGHTING SYSTEMS
This section does not apply to this project.

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Report Version: 2025.0.000
Schema Version: rev 20250101
Generated Date/Time: Documentation Software: Energy Code Ace
Compliance ID: ECA-371103-0226-0002
Report Generated: 2026-02-03 06:45:28

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Project Name: BelleHaven 'Child Development Center
Report Page: (Page 2 of 8)
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C. COMPLIANCE RESULTS
If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance.
Table with 8 columns: 01, 02, 03, 04, 05, 06, 07, 08. Rows include Lighting in conditioned and unconditioned spaces, Allowed Lighting Power per §140.6(b) / §170.2(e) (Watts), Adjusted Lighting Power per §140.6(a) / §170.2(e) (Watts), Compliance Results.
D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.
E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.
H. INDOOR LIGHTING CONTROLS (Not including PAFs)
Table with 10 columns: OFFICE, LOBBY, LAUNDRY/JANITOR, Office (<=250 square feet), Main Entry Lobby, All Other Space Types, Readily Accessible and located in the same space, Dimmer, Occupancy Sensor, Included, Included, No, Pass, Fail.
I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS
Table with 4 columns: LAUNDRY/JANITOR, All Other Space Types, 0.4, 108, 43.2, No, No. Totals: 5,497, 3,432.7, See Tables J, or P for detail.
J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
All areas indicated in Table I as using an additional allowance using the Area Category Method have been included in this table to calculate the additional allowance per Table 140.6-C / 170.2-M
Table with 10 columns: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10. Rows include Area Description, Primary Function Area, Applicable Qualifying Lighting System from Table 140.6-C, Allowed Density (W/ft² or W/ft or W/unit), Lig Area, Length or ATM/Mirror (ft², if or #), Extra Allowance (Watts), Luminaire Name or Item Tag, Watts per Luminaire, Number of Luminaires, Total Design Watts.
K. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This section does not apply to this project.
Q. ONE-FOR-ONE LUMINAIRE ALTERATIONS
This section does not apply to this project.

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Project Name: BelleHaven 'Child Development Center
Report Page: (Page 1 of 8)
Date Prepared: 2026-02-03T09:45:25-05:00

A. GENERAL INFORMATION
Table with 4 columns: 01, 02, 04, 05. Rows include Project Location (city), Climate Zone, Occupancy Types Within Project (select all that apply), School or Classroom.
B. PROJECT SCOPE
This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 / §170.2(e) or §141.0(b)(2) / §180.2(b)(4) for alterations.
Table with 5 columns: 01, 02, 03, 04, 05. Rows include Scope of Work, My Project Consists of (check all that apply), New Lighting System, New Lighting System - Parking Garage, Total Area of Work (ft²).
CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
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STATE OF CALIFORNIA
Indoor Lighting
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H. INDOOR LIGHTING CONTROLS (Not including PAFs)
This table includes lighting controls for conditioned and unconditioned spaces.
Building Level Controls
Table with 3 columns: 01, 02, 03. Rows include Mandatory Demand Response §110.12(c), Shut-off controls §130.1(c) / §160.5(b)(4)C, Field Inspector Pass/Fail.
Area Level Controls
Table with 12 columns: 04, 05, 06, 07, 08, 09, 10, 11, 12. Rows include Area Description, Complete Building or Area Category Primary Function Area, Manual Controls §130.1(a) / §160.5(b)(4)A, Multi-Level Controls §130.1(b) / §160.5(b)(4)B, Shut-Off Controls §130.1(c) / §160.5(b)(4)C, Primary/Sky lit Daylighting §130.1(d) / §160.5(b)(4)D, Secondary Daylighting §130.1(e) / §160.5(b)(4)E, Interlocked Systems §140.6(a)(1) / §170.2(e)(2)A, Field Inspector Pass/Fail.
CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Report Version: 2025.0.000
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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Project Name: BelleHaven 'Child Development Center
Report Page: (Page 7 of 8)
Date Prepared: 2026-02-03T09:45:25-05:00

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS
This section does not apply to this project.
S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This section does not apply to this project.
T. DWELLING UNIT LIGHTING
This section does not apply to this project.
U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online
Form/Title
NRIC-LTI-E - Must be submitted for all buildings
V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html
Form/Title
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.
NRCA-LTI-03-A - Must be submitted for daylight responsive controls.
CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Report Version: 2025.0.000
Schema Version: rev 20250101
Generated Date/Time: Documentation Software: Energy Code Ace
Compliance ID: ECA-371103-0226-0002
Report Generated: 2026-02-03 06:45:28

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Project Name: BelleHaven 'Child Development Center
Report Page: (Page 8 of 8)
Date Prepared: 2026-02-03T09:45:25-05:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.
Documentation Author Name: Tony Mortera
Signature Date: 02/02/26
Address: 3150 HILLTOP MALL RD, STE 22
City/State/Zip: RICHMOND, CA 94806
Phone: 510.275.3000
RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation this building provides to the building owner at occupancy.
Responsible Person Name: TONY Q. MORTERA, PE
Signature Date: 02/02/26
Address: 3150 HILLTOP MALL RD, STE 22
City/State/Zip: RICHMOND, CA 94806
Phone: 510.275.3000
CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Report Version: 2025.0.000
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Appendix D

- Technical Specifications



CITY OF MENLO PARK

PROJECT MANUAL

AND

CONTRACT DOCUMENTS

FOR

**BELLE HAVEN CHILD DEVELOPMENT CENTER
ELECTRIFICATION PROJECT – CPB025**

410 Ivy Drive
Menlo Park, CA 94025

April 14, 2026

DIVISION 1 – GENERAL REQUIREMENTS

01 25 13	Substitutions
01 29 00	Payment Procedures
01 31 00	Project Management and Coordination
01 32 16	Construction Progress Documentation
01 32 19	Submittal Schedules, Daily Reports, & Field Reports
01 33 00	Submittal Procedures
01 40 00	Quality Requirements
01 50 00	Temporary Facilities & Controls
01 73 00	Execution Requirements
01 73 29	Cutting and Patching
01 74 20	Cleaning
01 77 00	Closeout Procedures
01 79 00	Demonstration and Training
01 91 00	General Commissioning Requirements

DIVISION 2 – EXISTING CONDITIONS

02 4119	Selective Demolition
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DIVISION 6 – WOOD AND PLASTICS

06 10 00	Rough & Finish Carpentry
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DIVISION 7 – THERMAL AND MOISTURE PROTECTION

07 21 00	Building Insulation
07 62 00	Sheet Metal Flashing and Trim
07 72 00	Roof Accessories
07 90 00	Joint Sealants

DIVISION 9 – FINISHES

09 25 00	Gypsum Board
09 90 00	Painting

DIVISION 13 – SPECIAL CONSTRUCTION

13 05 41	Seismic Restraint for Non-Structural Components
----------	---

DIVISION 22 – PLUMBING

22 04 00	Plumbing System
----------	-----------------

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

23 00 50	General Mechanical Requirements
23 00 60	General Electrical Requirements for Mechanical Systems
23 06 00	HVAC System

DIVISION 26 – ELECTRICAL

26 01 00	Basic Electrical Requirements
26 05 00	Basic Electrical Materials and Methods
26 06 00	Grounding and Bonding
26 07 00	Electrical Hangers and Supports
26 07 10	Electrical Supports and Seismic Restraints
26 07 50	Electrical Identification
26 11 10	Raceways and boxes
26 12 00	Conductors and Cables
26 14 90	Lighting Control Devices
26 27 26	Wiring Devices
26 47 60	Enclosed Switches and Circuit Breakers
26 51 00	Interior Lighting
26 56 00	Exterior Lighting

PART 1 GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General Conditions and Supplemental General Conditions and other Division 01 General Requirements, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for Substitutions.
- B. Pre-bid substitutions will not be considered. No Substitution request will be accepted or considered by City prior to bid.
- C. Procedural requirements governing the Contractor's selection of products and product options are included under General Requirements - Product Requirements.

1.03 DEFINITIONS

- A. Definitions used in this Section are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents are considered requests for "substitutions." Where phrases such as "or equal" or "or equal as approved by the Architect" occurs in the Contract Documents, do not assume that materials or equipment will be approved as equal unless the item has been specifically approved for this work by the Architect prior to Bid Opening Date, or as otherwise allowed in these Contract Documents.

The following are not considered substitutions:

- 1. Revisions to Contract Documents requested by the Owner or Architect.
- 2. Specified options of products and construction methods included in Contract Documents.
- 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.04 SUBMITTALS

- A. If the Contractor desires to use material or equipment other than that specified, they shall submit a request for approval of such substitution, in writing, to the Construction Manager.

Product Substitutions for all Specification Sections must be requested within the time period specified in the general conditions. Substitution Request Form: Use CSI Form 13.1A.

- B. Submit Substitution Request packages using the form provided and in a quantity to be returned to the Contractor plus four (4) copies of each request for substitution for review by the Architect.

- C. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
1. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 2. Samples where applicable or requested.
 3. A detailed, side-by-side comparison of the significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include but is not necessarily limited to elements such as size, weight, durability, performance and visual effect.
 4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors will become necessary to accommodate the proposed substitution.
 5. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 6. Cost information, including a proposal of the net change, if any, in the Contract Sum.
 7. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately
 8. The Contractor warrants that they have investigated the proposed product and determined that it is equal to or superior in all respects to that indicated or specified.
 9. The Contractor waives claim for additional costs and time associated with the proposed product, which may subsequently become apparent.
 10. The Contractor shall provide a signed statement that the proposed product is in full compliance with the Contract Documents, and applicable regulatory requirements, requires no changes to specified controls and monitoring systems that may be specified in other Sections, and Certify that the Contractor will be responsible for coordination at no additional expense to the Owner
 11. The Contractor shall provide information on availability of maintenance service, and source of replacement materials, and provide a sample of Manufacturer's standard form of guarantee or warranty for proposed product.

1.05 CONSTRUCTION MANAGER'S ACTION

- A. Within ten (10) days of receipt of the request, the Construction Manager will notify the Contractor of acceptance or rejection of the proposed substitution. The Architect at their sole discretion will determine the acceptability of proposed products and their determination shall be final. If a decision on use of a proposed substitution cannot be made or obtained within the time allocated, use the product specified by name in the Contract Documents.
- B. No consideration will be given to a substitute product unless, in the Architect's judgment, it complies with the following conditions.
 - 1. Substitution Request is complete.
 - 2. It is equal in quality, performance and serviceability.
 - 3. Its use does not entail changes in details or related construction.
 - 4. It is acceptable in regards to design and aesthetic effect.
 - 5. There is a cost and/or time advantage to the Owner.
- C. Acceptance of a product shall not relieve the Contractor from responsibility for the proper execution of the Work and any other requirements of the Contract Documents.
- D. If a proposed product is not accepted, use the product originally specified or indicated in the Contract Documents.
- E. No products other than those indicated or specified in the Contract Documents shall be purchased or incorporated in the Work without the Architect's prior written acceptance.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS

- A. Conditions: The Contractor's substitution request will be received and considered by the Architect when one (1) or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
 - 1. Extensive revisions to Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of the Contract Documents.
 - 3. The request is timely, fully documented and properly submitted.
 - 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
 - 5. The Specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or

coordinate activities properly.

6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or Separate Contractors, and similar considerations.
 8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
 9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents, does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 EXECUTION – NOT USED

END OF SECTION



SUBSTITUTION REQUEST

(After the Bidding Phase)

Project: Insert project name Substitution Request Number: For the Architect to fill in.

From: Insert your name and company name

To: Insert name of Architect, Engineer or GC Date: Insert the current date

A/E Project Number: Fill in if you know the number

Contract For: Insert your contract scope (in general)

Re: Substitution request

Specification Title: Insert spec title from specification book Description: Copy section title from specification

Section: Copy from spec book Page: insert page Article/Paragraph: insert para

Proposed Substitution: _____

Manufacturer: _____

Address: _____ Phone: insert plant phone number

Trade Name: _____ Model No.: _____)

Installer: insert subs company Address: insert subs address Phone: insert subs phone number

History: ☐ New product ☐ 2-5 years old ☒ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

☒ Point-by-point comparative data attached - REQUIRED BY A/E.

Reason for not providing specified item: _____

Similar Installation:

Project: _____ List a completed project _____ Architect: _____ Insert name of Architect on completed project _____

Address: _____ Insert project address _____ Owner: _____ Insert name of Owner on completed project _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: X ☐ No ☐ Yes; explain _____

Savings to Owner for accepting substitution: _____ (\$ _____).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION

REQUEST

(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Insert submitters name, normally project manager for sub

Signed by: Submitter to sign

Firm: Insert Submitters company name

Address: Insert

Telephone: Insert company phone number

Attachments: List name of attachments

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
- ☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
- ☐ Substitution rejected - Use specified materials.

Substitution Request received too late - Use specified materials.

Signed by:

Date:

Additional Comments:

☐ Contractor

☐ Subcontractor

☐ Supplier

☐ Manufacturer

☐ A/E

☐ _____

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.02 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including; Application for Payment forms with Continuation Sheets, Submittals Schedule and Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to the Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Sub schedules: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one-line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project's name and address.
 - b. Owner's name and address.
 - c. Architect's name and address.
 - d. Architect's project number.
 - e. Contractor's name and address.
 - f. Date of submittal.
 - 2. Submit draft of AIA Document G703 Continuation Sheets.
 - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. (Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training in the amount of 5 percent of the Contract Sum.)
 - 4. Round amounts to the nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values.
 - b. A list of temporary facilities and cost shall be presented orderly for accuracy.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.03 APPLICATIONS FOR PAYMENT

- A. Applications for payment will be per General Conditions, Section 9-5.1.
- B. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- C. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- D. Payment Application Times: Progress payments shall be submitted to the Architect the 25th of the month. Provide a "draft copy" of proposed % complete values for review by the Architect. The period covered by each Application for Payment is one month, ending on the last day of the month.
- E. Payment Application Forms: Use forms provided by Owner as form for Applications for Payment.
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- G. Transmittal: Upon approval of the "draft copy" of the Application of Payment by the Architect, the Contractor shall submit a signed and notarized original copy of each Application for Payment to the Architect by a method ensuring receipt (within 24 hours). Submittal shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
 2. Contractor shall submit a Construction Schedule Update (hard copy and electronic copy) in accordance with Section 01 32 16 (Construction Progress Documentation) along with the final copies of each months Application for Payment.
- H. Contractor shall submit copies of the current months Photographic Documentation (electronic copy) in accordance with Section 01 32 33 (Photographic Documentation) along with the final copies of each months Application for Payment. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary, if not final).
 4. Schedule of unit prices.
 5. Submittals Schedule (preliminary, if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.

9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent (100%) completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707-1994, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final, liquidated damages settlement statement.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Project meetings.
 - 3. Requests for Interpretation (RFIs).
 - 4. Project Web site (web-based project management software).

1.02 DEFINITIONS

- A. RFI: Request For Information from Contractor seeking interpretation or clarification of the Contract Documents.

1.03 WEB-BASED PROJECT MANAGEMENT SOFTWARE

- A. Software: An online submittal software (Prolog Converge, Procore, Trimble) will be the software package utilized to manage the following processes:
 - 1. Requests for Information
 - 2. Submittals
 - 3. Change Management Documentation
 - 4. Daily Report Management
 - 5. Meeting Notes
 - 6. Document Management (including Photos)
 - 7. Close-Out Submittals
- B. The Contractor will be required to utilize online submittal software for all of the above processes. The Contractor may, at their option, utilize their own software for their own management purposes, but data must still be entered into the web based software. Data entered into other management systems will not be recognized by the project team.
- C. Licenses: Contractor is responsible for licenses and to provide access to Owner and Architect/Engineer.

1.04 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Pre-installation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.

1.05 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

- a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
2. Sheet Size: At least 8-1/2 by 11 inches (215 by 279 mm) but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Number of Copies: Submit electronic files for each submittal and produce hard copies as required by the Architect.
 4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.06 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner, Construction Manager and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Construction Manager and Architect, within three (3) days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and the KPS Group, but no later than fifteen (15) days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.

- d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises and existing buildings.
 - m. Work restrictions.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.
 - v. Progress cleaning.
 - w. Working hours.
3. Notes: Construction Manager or Architect will record and distribute meeting notes.
- C. Progress Meetings: Construction Manager will conduct progress meetings at **weekly** intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner, Construction Manager and Architect, each subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. General Contractor's designated Project Manager and Superintendent must attend all Progress Meetings in addition to all other project related meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve notes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Status of RFIs.
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.

- 20) Documentation of information for payment requests.
3. Notes: Construction Manager will conduct the meeting will record and distribute meeting notes to Owner, Architect and Contractor.
4. Reporting: Distribute notes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Contractor shall update the Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized.

1.07 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI via the web-based project management software.
 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. RFIs shall be submitted to the Construction Manager in the specified format.
 3. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
 1. Project name.
 2. Project number
 3. Date.
 4. Name of Contractor.
 5. Name of Architect and Construction Manager.
 6. RFI number, numbered sequentially.
 7. Specification Section number and title and related paragraphs, as appropriate.
 8. Drawing number and detail references, as appropriate.
 9. Field dimensions and conditions, as appropriate.
 10. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 11. Contractor's signature.
 12. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

- C. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow fourteen (14) working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to **procedures defined in the Contract Documents including Division F, Section 21.**
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.
- D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log (CSI Log Form 13.2B) weekly. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.02 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.03 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1.04 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing Time: Allow time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Architect's receipt of submittal. Contractor is to notify the Architect and Construction Manager when new materials for review have been posted to the designated web-based project management software. Time will begin upon successful download of that information. 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 re-submittals.
 - 1. Initial Review: Allow fourteen (14) calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow fourteen (14) calendar days for review of each re-submittal.
- C. Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of AIA Document C106, Digital Data Licensing Agreement as well as any further waivers required by the Architect.
- D. Submittals are to be submitted electronically via the web-based project management software.
1. The following submittals are to be submitted electronically:
 - a. Product Data
 - b. Shop Drawings
 - c. Certifications
 - d. Test Data
 - e. Schedules
 2. Samples shall not be submitted electronically but a transmittal should be to document delivery of such samples.
- E. Identification and Information: Place a permanent label or title block on each cover of submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6x8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.

- e. Name of Contractor.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Re- submittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Other necessary identification.
- F. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
- 1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01- LNHS). Re-submittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A-LNHS).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 - 4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.

- h. Name of supplier.
 - i. Name of Manufacturer
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Other necessary identification.
 - G. Options: Identify options requiring selection by the Architect.
 - H. Deviations: Highlight, encircle, and otherwise specifically identify deviations from the Contract Documents on submittals.
 - I. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial electronic submittal may serve as final submittal.
 - J. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Construction Manager will return submittals, without review, received from sources other than Contractor.
 - 1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
 - K. Re-submittals: Make re-submittals in same form as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's and Construction Manager's action stamp.
 - L. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
 - M. Use for Construction: Retain complete set of paper copies of submittals on Project site. Use only final submittals that are marked with approval notation from Architect's and Construction Manager's action stamp.
- 1.05 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES
- A. At Contractor's written request, copies of Architect's CAD files of select plans will be provided to Contractor for Contractor's use in connection with Project, subject to the following conditions.

1. Only major site/floor/ceiling/roof plans, or building elevations/sections will be provided.
2. Wall section, details, schedules will not be provided. Title blocks will be removed from the file.
3. Notes and dimensions may be removed from the file.
4. Compliance of the requests for consultant files is at the discretion of the consultant.
5. The following disclaimer will be added to the file:

DISCLAIMER AND INDEMNIFICATION AGREEMENT
FOR COMPUTER-BASED INFORMATION

The attached computer-based information for the **City of Menlo Park, Belle Haven Child Development Center Electrification Project** are provided to **(The User)** as a courtesy for their sole convenience. The User recognizes that computer-based information is easily changeable, that changes are difficult to detect and that use or conversion of the information provided may introduce errors, inaccuracies or anomalies that the Architect and their consultants can neither predict nor control. The delivery of this electronic data does not constitute the delivery of the professional work product of the Architect shall not be responsible for any modifications made to the electronic files or any products derived from the electronic files which are not prepared by us. By accepting and utilizing this electronic data in lieu of the corresponding drawings and specifications prepared by the Architect, the User agrees that such data is an instrument of service of the Architect, who shall be deemed to be the author of the drawings and data, and shall retain all common law, statutory law and other rights, including copyrights. The User, by accepting the electronic files, agrees to assume all risk and liabilities associated with the use of the information provided by the Architect and understand the Architect makes no claim or warranty as to the suitability or usefulness of the information for any purpose. The User also agrees, to the fullest extent permitted by law, to hold harmless and indemnify the Architect from and against any and all claims, liabilities, losses, damages and costs, including but not limited to attorney's fees, arising from or in connection with the use, misuse, modification, or misinterpretation of the electronic data provided by the Architect. Use of the attached computer-based information indicates acceptance and constitutes agreement to abide by the terms and conditions of this agreement.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:

1. Post electronic submittals as PDF electronic files directly to the web-based project management software. Notify the Architect and Construction Manager of the presence of the submittal(s) via email with identification of the specific materials posted. In web-based project management software, include link for all submittal register items associated with the submittal package. Where possible, endeavor to include all required action submittals for that specification section.
2. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as an electronic Project record document file. Submit electronic submittals via email as PDF files.

- a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 3. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified "Closeout Procedures."
 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file with transmittal as noted above.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submittals based upon Architect's digital data drawing files will be permitted. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
- a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
1. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches. Provide hard copies as required by the Architect and Construction Manager
 2. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package. Provide transmittal listing all samples submitted along with quantities.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity.

Sample sets may be used to determine final acceptance of construction associated with each set.

- a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one (1) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal, through Construction Manager, with options selected.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three (3) sets of Samples. Architect will retain two (2) Sample sets; remainder will be returned. Mark up and retain one returned sample set as a project record sample.
 - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Contractor's Construction Schedule: Comply with requirements specified in Section 01 32 16 "Construction Progress Document."
- G. Application for Payment: Comply with requirements specified in General Conditions, Section 9-5.1.
- H. Schedule of Values: Comply with requirements specified in Section 01 29 00 "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Wherever possible, including CSI numbers with description

of work being completed. Also, provide DIR numbers for all subcontractors and vendors listed. Provide an updated list when any changes take place along with an explanation of what changed and why.

1. Submit subcontract list in the following format:
 - a. PDF electronic file.
- J. Coordination Drawings: Comply with requirements specified in Section 01 31 00 "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- M. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- P. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- Q. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- R. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- S. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- T. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- U. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and

calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.02 DELEGATED-DESIGN SERVICES (Including DEFERRED APPROVALS)

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally-signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: 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 and Construction Manager.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Section 01 77 00 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. General: Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. Final Unrestricted Release: Where the submittal is marked "No Exceptions Taken," the Work covered by the submittal may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.

2. Final-but-Restricted Release: Where the submittal is marked "Reviewed with Exceptions as Noted," the Work covered by the submittal may proceed provided it complies with both Architect's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
 3. Returned for Resubmittal: Where the submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity for the product submitted. Revise or prepare a new submittal according to Architect's notations and corrections.
 4. Rejected: Where the submittal is marked "Rejected," do not proceed with the Work covered by the submittal. Prepare a new submittal for a product that complies with the Contract Documents.
 5. Incomplete: Where the submittal is marked "Submit Specified Item," do not proceed with the Work covered by the submittal. Prepare additional information requested, or required by the Contract Documents, that indicates compliance with requirements.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it or will return it if it does not comply with requirements. Construction Manager will forward each submittal to appropriate party.
- D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded .

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. 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.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 3. Specific test and inspection requirements are not specified in this Section.

1.02 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to Tradespeople of the corresponding generic name.
- I. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction. See specific specification sections for additional experience requirements.

1.03 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement as defined in the General Conditions. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.04 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: Prepare and submit certified written reports that 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 re-inspecting.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.05 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. 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. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 - 2. Notify Construction Manager seven (7) days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed, unless otherwise indicated.
- J. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 02 through 48.

1.06 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor (contract sum adjusted through change order procedures).
- B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.

3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections.
- D. Retesting/Re-inspecting: 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.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Does not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.

6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. 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.

1.07 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency, special inspector and/or Essential Services Inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, this includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.

4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

3.02 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 2. Comply with the Contract Document requirements for "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This Section includes requirements for temporary fencing, utilities, support facilities, and security and protection facilities.

1.02 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weather tight; exterior walls are insulated and weather tight; and all openings are closed with permanent construction or substantial temporary closures.

1.03 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Construction Manager, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is not available for use without metering and without payment of use charges. Contractor is responsible for coordination of this activity with the local municipality.
- C. Electric Power Service: Contractor to provide connections and extensions of services as required for construction operations including the office trailers. Contractor will be responsible to coordinate and make arrangements with PG&E to provide temporary power to the construction site. Contractor will be responsible for all costs associated with the installation of temporary power and any and all use charges for the duration of the contract. **Contractor shall provide temporary power as required to allow for operation of office trailers, and construction power.** Temporary power from PG&E is available in the immediate area of the site, contractor shall pursue engineering and installation of temporary power at their own cost.
- D. Internet Service/Data: Temporary hardwired service is not currently available in the immediate area of the site, but contractor may pursue engineering and installation of temporary hardwired service at their own cost. Contractor may need to pursue other options to meet the contractual temporary service requirements (satellite, etc.).
- E. Temporary Fencing: Contractor to provide temporary fencing at the perimeter of the project laydown area with adequate protection provided to pedestrians within the project site. If there is any exposure to falling objects outside of the project site then the Contractor must provide a covered walkway.

1.04 SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel and Construction Managers.

1.05 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.06 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibility.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Temporary Chain-Link Fencing: Minimum 2-inch, 9-gage, galvanized steel, chain-link fence with privacy screening fabric mesh; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Galvanized Steel posts will be required to be driven into the ground for support and stability or portable fencing, if appropriate, with sufficient hold down weight to prevent overturning.

2.02 TEMPORARY FACILITIES FOR PROJECT SITE

The Contractor will provide temporary onsite facilities per Section 11-3 of the General Conditions and to comply with requirements of California Education Code Section 45125.1 and non-interaction with students project policy.

2.03 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION FOR PROJECT SITE

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Electrical Power and Lighting:
 - 1. Contractor will furnish and pay for power during the course of the work to the extent power is not in the building(s) or on the Site. Contractor shall be responsible for providing temporary facilities required on the Site to point of intended use.
 - 2. Contractor shall furnish, wire for, install and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper performance and/ or observe of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
 - 3. Contractor shall be responsible for maintaining existing lighting levels in the Project vicinity should temporary outage or service interruptions occur.
- C. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction. Coordination is the responsibility of the Contractor.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- G. Electric Power Service: It is the Contractor's responsibility to coordinate with PG&E to obtain the temporary electrical service, including submission of services applications, load calculation, and single line diagrams. The Contractor will also be responsible for payment of the monthly PG&E invoices and all other temporary requirements as outlined within the specification section.

Contractor shall provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations including office trailers.

- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.03 Temporary Controls

A. Noise Control

- 1. Contractor acknowledges that adjacent facilities will remain in operation during all or a portions of the Work, and it shall take all reasonable precaution to minimize noise as required by applicable laws and the Contract Documents.
- 2. Notices of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to the City a minimum of forty-eight (48) hours in advance of their performance. Contractor responsible for obtaining all permits required for construction noise outside of the times allowable within the noise ordinance.
- 3. Contractor to meet the Conditions of Approval related to Noise Control as defined in the Contract Documents.

B. Noise and Vibration

- 1. Equipment and impact tools shall have intake and exhaust mufflers.
- 2. Contractor shall cooperate with the City to minimize and /or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.
- 3. Contractor to meet the Conditions of Approval related to noise and vibration as defined in the Contract Documents.

C. Dust and Dirt

- 1. Contractor shall conduct demolition and construction operations to minimize the generation of dust & dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.
- 2. Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- 3. Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.
- 4. Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.
- 5. Contractor to meet the Conditions of Approval related to dust and dirt as defined in the Contract Documents.

3.04 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within thirty (30) feet of building lines. Comply with NFPA 241.
 - 2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Roads and Paved Areas: All areas are currently paved.
- C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Contractor is to provide temporary parking for construction personnel within confines of the designated construction site. If parking within the designated construction site becomes unavailable due to number of Trades, Subcontractors and Vendors, Contractor shall be responsible for coordinating with the City, or local jurisdiction for parking requirements, locations, permits, shuttle services, etc. Contractor is to review and follow all related Conditions of Approval, Laws and Regulations from the City of Menlo Park.
- E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water. (refer to demolition drawings for specifics)
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
- F. Project Identification and Temporary Signs: Provide Project identification and other signs as indicated on drawings or required by the City. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - 1. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.
- G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.05 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

- B. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- C. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
- E. Temporary Site Enclosure Fence: All costs associated with the install, monthly fencing rental fees and demobilization of the fencing will be the responsibility of the contractor. Furnish and install any additional site enclosure fence panels in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - 1. Temporary Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations and protection of the public. Operations include temporary offices, parking, staging areas, actual construction site.
- F. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Contractor is responsible to ensure that the fencing and all gates are secured and locked prior to leaving the site on a daily basis to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather-tight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
 - 2. Insulate partitions to provide noise protection to occupied areas.
 - 3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 - 4. Protect air-handling equipment.
 - 5. Weather strip openings.
 - 6. Provide walk-off mats at each entrance through temporary partition.
- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
 - 1. Smoking is **prohibited** in all construction areas.

2. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.06 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. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: 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. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.

1.02 SUBMITTALS

- A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.03 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
- B. 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.

1.04 EXAMINATION

- A. Existing Utilities: 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.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

1.05 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

1.06 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 2. Establish limits on use of Project site.
 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 4. Inform installers of lines and levels to which they must comply.
 5. Check the location, level and plumb, of every major element as the Work progresses.

6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

1.07 INSTALLATION

- A. General: 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. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. 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.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 2. Allow for building movement, including thermal expansion and contraction.
 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1.08 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties
- C. Temporary Support: Provide temporary support of work to be cut.
- D. 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.
- E. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
- F. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

1.09 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than seven (7) days during normal weather or three (3) days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

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.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

1.10 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

1.11 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

1.12 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

PART 2 PRODUCTS – NOT USED**PART 3 EXECUTION – NOT USED**

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes procedural requirements for cutting and patching.
- B. See Divisions 2 through 48 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.02 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - 7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.03 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. 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 result in increased maintenance or decreased operational life or safety.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, and result in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.

- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Temporary Support: 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. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.03 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 3. Floors and Walls: 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. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 4. Ceilings: Patch, repair, or re-hang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes Cleaning throughout the construction period, and final project cleaning prior to the acceptance tour.

1.02 Quality Assurance

- A. Inspection: Conduct daily inspection, and more often if necessary, to verify that requirements of cleanliness are being met.
- B. Codes and Standards: In addition to the requirements specified herein, comply with pertinent requirements of authorities having jurisdiction.

PART 2 PRODUCTS

2.01 Cleaning Materials and Equipment

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 Compatibility

- A. Use cleaning materials and equipment that are compatible with the surfaces being cleaned, as recommended by the manufacturer of the material to be cleaned.

PART 3 EXECUTION

3.01 Progress Cleaning

- A. General:
 - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this work. Debris shall be removed from the site and disposed of in a lawful manner. Disposal receipts or dump tickets shall be furnished to Architect upon request.
 - 3. At least twice each month, and more often if necessary, remove scrap debris, and waste material from the job site. Provide adequate storage for items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.
- B. Site:
 - 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove items to the place designated for their storage. Flammable waste shall be kept in sealed metal containers until removed from the site.

2. Weekly, and more often if necessary, inspect, arrangements of materials stored on the site; restack, tidy, or otherwise service arrangements to meet the requirements specified above.
 3. Maintain the site in a neat and orderly condition.
- C. Structures:
1. Weekly, and more often if necessary, inspect the structures and pick up scrap, debris, and waste material. Remove items to the place designated for their storage.
 2. Weekly, and more often if necessary, sweep interior spaces clean.
 - a. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a handheld broom, i.e., "broom-clean".
 3. As required preparatory to installation of succeeding materials, clean the structures of pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the required cleanliness.
 4. Following the installation of finish floor materials, clean the finish floor daily, and more often if necessary, and while work is being performed in the space in which finish materials have been installed.
 - a. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material that, in the opinion of the Architect, may be injurious to the finish floor material, i.e., "vacuum-clean".
- D. General: The General Conditions require general cleaning during construction. Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste, conduct final progress cleaning as described below.
- E. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions. Unless otherwise specifically directed by the Architect, water and broom clean paved areas on the site and public paved areas directly adjacent to the site. Remove resultant debris
- F. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
1. Remove labels that are not permanent labels.
- G. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces. Sweep and mop vinyl and rubber surfaces.
- H. Structures:
1. Exterior: In areas affected by the work under this contract, visually inspect exterior surfaces and remove traces of soil, waste material, smudges, and other

- foreign matter. Remove traces of splashed material from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure.
2. In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no additional cost to the City.
- I. Interior: In areas affected by the work under this contract, visually inspect interior surfaces and remove traces of soil waste material, smudges, and other foreign matter. Remove traces of splashed materials from adjacent surfaces. Remove paint drippings, spots, stains, and dirt from finished surfaces. Use only the cleaning materials and equipment instructed by the manufacturer of the surface material.
 - J. Glass: Clean glass inside and outside.
 - K. Polished surfaces: On surfaces requiring the routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished. Glossy surfaces shall be cleaned and shined as intended by the manufacturer
 1. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 2. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.
 - L. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests.
 - M. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
 - N. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the City's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
 - O. Extra Materials: Where extra materials of value remain after completion of associated Work, they become the City's property. Dispose of these materials as directed by the Owner.
 - P. Timing: Schedule final cleaning as accepted by the Architect to enable the City to accept a completely clean project.
 - Q. Cleaning During City's Occupancy
 1. Should the City occupy the work or any portion thereof prior to its completion by the Contractor and acceptance by the City, responsibilities for interim and final cleaning of the occupied spaces shall be determined by the Architect in accordance with the General Conditions of the Contract.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Final Completion.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of work.
- B. 01 79 00 "Demonstration and Training" for requirements for instructing Owner's personnel.
- C. See Divisions 02 through 48 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.02 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust/balance records.

10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
 15. Successful completion of Functional Testing for equipment requiring LDD Commissioning.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.03 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.04 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit electronic versions of list (including editable file and PDF file). Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect, through Construction Manager, will retune annotate copy.

1.05 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8- 1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION**3.01 FINAL CLEANING**

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily

repaired or restored or that already show evidence of repair or restoration.

- 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
- m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training digital storage device.
- B. See Divisions 02 through 48 for specific requirements for demonstration and training for products in those Sections.

1.02 SUBMITTALS

- A. Instruction Program: Submit two (2) copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
- B. Demonstration and Training DVD's/digital storage device: Submit two (2) copies within seven (7) days of end of each training module.

1.03 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Pre-instruction Conference: Conduct conference at Project site. Review methods and procedures related to demonstration and training.
- D. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 PRODUCTS**2.01 INSTRUCTION PROGRAM**

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
 - 1. Building Energy Management System.

- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
1. Basis of System Design, Operational Requirements, and Criteria: Include system and equipment descriptions, operating standards, regulatory requirements, equipment function, operating characteristics, limiting conditions, and performance curves.
 2. Documentation: Review emergency, operations, and maintenance manuals; Project Record Documents; identification systems; warranties and bonds; and maintenance service agreements.
 3. Emergencies: Include instructions on stopping; shutdown instructions; operating instructions for conditions outside normal operating limits; instructions on meaning of warnings, trouble indications, and error messages; and required sequences for electric or electronic systems.
 4. Operations: Include startup, break-in, control, and safety procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; operating procedures for emergencies and equipment failure; and required sequences for electric or electronic systems.
 5. Adjustments: Include alignments and checking, noise, vibration, economy, and efficiency adjustments.
 6. Troubleshooting: Include diagnostic instructions and test and inspection procedures.
 7. Maintenance: Include inspection procedures, types of cleaning agents, methods of cleaning, procedures for preventive and routine maintenance, and instruction on use of special tools.
 8. Repairs: Include diagnosis, repair, and disassembly instructions; instructions for identifying parts; and review of spare parts needed for operation and maintenance.

PART 3 EXECUTION

3.01 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
1. Owner will furnish an instructor to describe Owner's operational philosophy.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Owner, through Engineer, with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.

3.02 DEMONSTRATION AND TRAINING VIDEOTAPES

- A. General: Engage a qualified commercial photographer to record demonstration and training videos. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Media Format: Provide high-quality digital storage device (per the preference of the Owner).
- C. Narration: Describe scenes on video by audio narration by microphone while video is recorded. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Commissioning is intended to achieve the following specific objectives; this section specifies the Contractor's responsibilities for commissioning:
 - 1. Verify that the work is installed in accordance with Contract Documents and the manufacturer's recommendations and instructions, and that it receives adequate operational checkout prior to startup: Startup reports and Pre-functional Checklists executed by Contractor are utilized to achieve this.
 - 2. Verify and document that functional performance is in accordance with Contract Documents: Functional Tests executed by Contractor and witnessed by the Commissioning Authority are utilized to achieve this.
 - 3. Verify that operation and maintenance manuals submitted to the Owner are complete: Detailed operation and maintenance (O&M) data submittals by Contractor are utilized to achieve this.
 - 4. Verify that the Owner's maintenance personnel are adequately trained: Formal training conducted by Contractor is utilized to achieve this.
- B. The Commissioning Authority directs and coordinates all commissioning activities; this section describes some but not all of the Commissioning Authority's responsibilities.

1.02 RELATED REQUIREMENTS

- A. Section 01 77 00 - Closeout Submittals: Scope and procedures for operation and maintenance manuals and project record documents.

PART 2 PRODUCTS**2.01 TEST EQUIPMENT**

- A. Provide all standard testing equipment required to perform startup and initial checkout and required Functional Testing; unless otherwise noted such testing equipment will NOT become the property of Owner.
- B. Calibration Tolerances: Provide testing equipment of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified. If not otherwise noted, the following minimum requirements apply:
 - 1. Temperature Sensors and Digital Thermometers: Certified calibration within past year to accuracy of 0.5 degree F and resolution of plus/minus 0.1 degree F.
 - 2. Calibration: According to the manufacturer's recommended intervals and when dropped or damaged; affix calibration tags or keep certificates readily available for inspection.
- C. Equipment-Specific Tools: Where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in

order to accomplish startup or Functional Testing, provide such equipment, tools, and instruments as part of the work at no extra cost to Owner; such equipment, tools, and instruments are to become the property of Owner.

- D. Dataloggers: Independent equipment and software for monitoring flows, currents, status, pressures, etc. of equipment.
 - 1. Dataloggers required to for Functional Tests will be provided by the Commissioning Authority and will not become the property of Owner.

PART 3 EXECUTION

3.01 COMMISSIONING PLAN

- A. Commissioning Authority has prepared the Commissioning Plan.
 - 1. Attend meetings called by the Commissioning Authority for purposes of completing the commissioning plan.
 - 2. Require attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.
- B. Contractor is responsible for compliance with the Commissioning Plan.
- C. Commissioning Plan: The commissioning schedule, procedures, and coordination requirements for all parties in the commissioning process.
- D. Commissioning Schedule:
 - 1. Submit anticipated dates of startup of each item of equipment and system to Commissioning Authority within 60 days after award of Contract.
 - 2. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.
 - 3. Pre-functional Checklists and Functional Tests are to be performed in sequence from components, to subsystems, to systems.
 - 4. Provide sufficient notice to Commissioning Authority for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.02 STARTUP PLANS AND REPORTS

- A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.
- B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan or field checkout sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entity.
- C. Submit directly to the Commissioning Authority.

3.03 PREFUNCTIONAL CHECKLISTS

- A. Pre-functional Checklist is required to be filled out for each item of equipment or other assembly specified to be commissioned.
 - 1. No sampling of identical or near-identical items is allowed.
 - 2. These checklists do not replace manufacturers' recommended startup checklists, regardless of apparent redundancy.
 - 3. Pre-functional Checklist forms will not be complete until after award of the contract; the following types of information will be gathered via the completed Checklist forms:
 - a. Certification by installing contractor that the unit is properly installed, started up, and operating and ready for Functional Testing.
 - b. Confirmation of receipt of each shop drawing and commissioning submittal specified, itemized by unit.
 - c. Manufacturer, model number, and relevant capacity information; list information "as specified," "as submitted," and "as installed."
 - d. Serial number of installed unit.
 - e. List of inspections to be conducted to document proper installation prior to startup and Functional Testing; these will be primarily static inspections and procedures; for equipment and systems may include normal manufacturer's start-up checklist items and minor testing.
 - f. Sensor and actuator calibration information.
- B. Contractor is responsible for filling out Pre-functional Checklists, after completion of installation and before startup; witnessing by the Commissioning Authority is not required unless otherwise specified.
 - 1. Each line item without deficiency is to be witnessed, initialed, and dated by the actual witness; checklists are not complete until all line items are initialed and dated complete without deficiencies.
 - 2. Checklists with incomplete items may be submitted for approval provided the Contractor attests that incomplete items do not preclude the performance of safe and reliable Functional Testing; re-submission of the Checklist is required upon completion of remaining items.
 - 3. Individual Checklists may contain line items that are the responsibility of more than one installer; Contractor shall assign responsibility to appropriate installers or subcontractors, with identification recorded on the form.
 - 4. If any Checklist line item is not relevant, record reasons on the form.
 - 5. Contractor may independently perform startup inspections and/or tests, at Contractor's option.

6. Regardless of these reporting requirements, Contractor is responsible for correct startup and operation.
 7. Submit completed Checklists to Commissioning Authority within two days of completion.
- C. Commissioning Authority is responsible for furnishing the Pre-functional Checklists to Contractor.
1. Initial Drafts: Contractor is responsible for initial draft of Pre-functional Checklist where so indicated in Contract Documents.
 2. Provide all additional information requested by Commissioning Authority to aid in preparation of checklists, such as shop drawing submittals, manufacturers' startup checklists, and O&M data.
 3. Commissioning Authority may add any relevant items deemed necessary regardless of whether they are explicitly mentioned in Contract Documents or not.
 4. When asked to review the proposed Checklists, do so in a timely manner.
- D. Commissioning Authority Witnessing: Required for:
1. Each piece of primary equipment, unless sampling of multiple similar units is allowed by the commissioning plan.
 2. A sampling of non-primary equipment, as allowed by the commissioning plan.
- E. Deficiencies: Correct deficiencies and re-inspect or re-test, as applicable, at no extra cost to Owner.
1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.04 FUNCTIONAL TESTS

- A. A Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.
- B. Contractor is responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before closeout.
- C. Commissioning Authority is responsible for witnessing and reporting results of Functional Tests, including preparation and completion of forms for that purpose.
- D. Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Owner; if a deficiency is not corrected and re-tested immediately, the Commissioning Authority will document the deficiency and the Contractor's stated intentions regarding correction.
1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with Contract Documents or does not perform properly.

2. When the deficiency has been corrected, the Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Commissioning Authority; the Commissioning Authority will reschedule the test and the Contractor shall re-test.
 3. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
 4. Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing.
 5. Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing if the test failed due to failure to execute the relevant Pre-functional Checklist correctly; if the test failed for reasons that would not have been identified in the Pre-functional Checklist process, Contractor shall bear the cost of the second and subsequent re-tests.
- E. Functional Test Procedures:
1. Some test procedures are included in Contract Documents; where Functional Test procedures are not included in Contract Documents, test procedures will be determined by the Commissioning Authority with input by and coordination with Contractor.
 2. Examples of Functional Testing:
 - a. Test the dynamic function and operation of equipment and systems (rather than just components) using manual (direct observation) or monitoring methods under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).
 - b. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.
 - c. Systems are run through all the HVAC control system's sequences of operation and components are verified to be responding as the sequence's state.
 - d. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Commissioning Authority is Functional Testing.
- F. Deferred Functional Tests: Some tests may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these tests remains the Contractor's responsibility regardless of timing.

3.05 SENSOR AND ACTUATOR CALIBRATION

- A. Calibrate all field-installed temperature, relative humidity, carbon monoxide, carbon dioxide, and pressure sensors and gauges, and all actuators (dampers and valves) on this piece of equipment shall be calibrated. Sensors installed in the unit at the factory with calibration certification provided need not be field calibrated.
- B. Calibrate using the methods described below; alternate methods may be used, if approved by Commissioning Authority and Owner beforehand. See PART 2 for test instrument requirements. Record methods used on the relevant Pre-functional Checklist or other suitable forms, documenting initial, intermediate and final results.
- C. All Sensors:
 - 1. Verify that sensor location is appropriate and away from potential causes of erratic operation.
 - 2. Verify that sensors with shielded cable are grounded only at one end.
 - 3. For sensor pairs that are used to determine a temperature or pressure difference, for temperature make sure they are reading within 0.2 degree F of each other, and for pressure, within tolerance equal to 2 percent of the reading, of each other.
 - 4. Tolerances for critical applications may be tighter.
- D. Sensor Tolerances for Standard Applications: Plus/minus the following maximums:
 - 1. Watthour, Voltage, Amperage: 1 percent of design.
 - 2. Pressure, Air, Water, Gas: 3 percent of design.
 - 3. Air Temperatures (Outside Air, Space Air, Duct Air): 0.4 degrees F.
 - 4. Relative Humidity: 4 percent of design.
 - 5. Barometric Pressure: 0.1 inch of Hg.
 - 6. Flow Rate, Air: 10 percent of design.
 - 7. Flow Rate, Water: 4 percent of design.
 - 8. AHU Wet Bulb and Dew Point: 2.0 degrees F.
- E. Valve/Damper Stroke Setup and Check:
 - 1. For all valve/damper actuator positions checked, verify the actual position against the control system readout.
 - 2. Set pump/fan to normal operating mode.
 - 3. Command valve/damper closed; visually verify that valve/damper is closed and adjust output zero signal as required.

4. Command valve/damper to open; verify position is full open and adjust output signal as required.
5. Command valve/damper to a few intermediate positions.
6. If actual valve/damper position does not reasonably correspond, replace actuator or add pilot positioner (for pneumatics).

3.06 TEST PROCEDURES – GENERAL

- A. Provide skilled technicians to execute starting of equipment and to execute the Functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.
- B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and conditions necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.
- C. Sampling: Where Functional Testing of fewer than the total number of multiple identical or near-identical items is explicitly permitted, perform sampling as follows:
 1. Identical Units: Defined as units with same application and sequence of operation; only minor size or capacity difference.
 2. Sampling is not allowed for:
 - a. Major equipment.
 - b. Life-safety-critical equipment.
 - c. Pre-functional Checklist execution.
 3. XX = the percent of the group of identical equipment to be included in each sample; defined for specific type of equipment.
 4. YY = the percent of the sample that if failed will require another sample to be tested; defined for specific type of equipment.
 5. Randomly test at least XX percent of each group of identical equipment, but not less than three units. This constitutes the "first sample."
 6. If YY percent of the units in the first sample fail, test another XX percent of the remaining identical units.
 7. If YY percent of the units in the second sample fail, test all remaining identical units.
 8. If frequent failures occur, resulting in more troubleshooting than testing, the Commissioning Authority may stop the testing and require Contractor to perform and document a checkout of the remaining units prior to continuing testing.

- D. Manual Testing: Use hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the "observation").
- E. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example apply hot air to a space sensor using a hair dryer to see the response in a VAV box.
- F. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.
 - 1. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
 - 2. Graphical output is desirable and is required for all output if the system can produce it.
 - 3. Monitoring may be used to augment manual testing.

3.07 OPERATION AND MAINTENANCE MANUALS

- A. Add design intent documentation furnished by Architect to manuals prior to submission.
- B. Submit manuals related to items that were commissioned to Commissioning Authority for review; make changes recommended by Commissioning Authority.
- C. Commissioning Authority will add commissioning records to manuals after submission.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.04 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: Submit engineering survey of condition of building.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for environmental protection, for dust control and, for noise control Indicate proposed locations and construction of barriers.
- C. Schedule of selective demolition activities with starting and ending dates for each activity.
- D. Pre-demolition photographs or video.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

1.05 CLOSEOUT SUBMITTALS

- A. Inventory of items that have been removed and salvaged.

1.06 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.07 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Storage or sale of removed items or materials on-site is not permitted.
- D. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- E. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Inventory and record the condition of items to be removed and salvaged.

3.02 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.03 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.04 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Remove temporary barricades and protections where hazards no longer exist.

3.05 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. 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. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 4. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition [and cleaned] and reinstalled in their original locations after selective demolition operations are complete.

3.06 CLEANING

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction. and recycle or dispose of them according to Section 017419 "Construction Waste Management."
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Comply with requirements specified in Section 017419 "Construction Waste Management."
- B. Burning: Do not burn demolished materials.
- C. 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

PART 1 GENERAL**1.01 SUMMARY**

- A. Provide labor, materials and equipment to complete all rough and finish carpentry work as indicated in the Contract Documents.
- B. Work of this section include rough carpentry, framing, plywood, composite lumber, sheathing, wood nailers, blocking, sleepers, curbs, cants, wood and hollow metal door frames rough framing, finish carpentry and miscellaneous installed finished items.
 - 1. Establish lines and levels for use of other trades.
 - 2. Create openings and lintels for increased door heights.
- C. Provide labor, materials and equipment to shore, brace either temporarily or permanently wood ceiling systems to remain that will be disturbed during demolition and preparation of new walls and ceiling systems.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 REFERENCES

- A. AHA A135.4 - Basic Hardboard; American Hardboard Association.
- B. ANSI A208.1 - Wood Particleboard.
- C. ASTM C1036 - Standard Specification for Flat Glass.
- D. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. AWI P-200 - Architectural Woodwork Quality Standards; Architectural Woodwork Institute.
- G. AWP A C2 - Lumber, Timbers, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes; American Wood Preservers Association.
- H. NWWDA I.S.4 - Industry Standard for Water-Repellent Preservative Non-Pressure Treatment for Millwork; National Wood Window and Door Association

- I. NIST PS 1 - Construction and Industrial Plywood.
- J. NIST PS 20 - American Softwood Lumber Standard.
- K. WIC - Manual of Millwork; Woodwork Institute of California.
- L. Forest Products Society (FPS): National Design Specification for Stress Grade Lumber and its Fastening.

1.04 SUBMITTALS

- A. Product Data: Submit wood treatment certifications and instructions for proper use of each type of treated material.
- B. Wood Product Certifications:
 - 1. FSC Certification: Furnish certification indicating wood products are from "well-managed" forests.
 - 2. Toxicity Certification: Furnish certification plywood has no added formaldehyde and has no toxic materials as defined by LEED.

1.05 QUALITY ASSURANCE

- A. Lumber Grades: Provide visible grade stamp of an agency certified by FPS.
- B. Lumber Standard: Comply with US Product Standard PS20 for each indicated use, including moisture content and actual sizes related to indicated nominal sizes.
- C. Plywood Standard: Comply with PS1 (ANSI A199.1).
- D. FSC Certified Wood Products: Wood products to be from forests certified "well-managed" by an agency accredited by Forest Stewardship Council (FSC) including SmartWood Program and Forest Conservation Program.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Blocking: Provide dimensional lumber graded in accordance with FPS Grading Rules; Construction Grade, Douglas Fir; minimum S-Dry.
- B. Plywood: Provide minimum APA C-D exterior (CDX) plywood; stress rated where spanning between supporting members; fire retardant treated; minimum 3/4" thick unless otherwise indicated. Where plywood will be exposed in finished work with painted finish provide A-C/EXT-APA plywood with Grade A face exposed and Grade C face concealed for exterior use: and A-C/INT-APA plywood with Grade A face exposed and Grade C face concealed for interior use.
 - 1. General: Provide plywood certified with no added formaldehyde (NAF) and with no toxic materials.
- C. Nails, Spikes and Staples: Galvanized; size and type to suit application.

- D. Bolts, Nuts, Washers, Lags, Pins and Screws: Medium carbon steel; galvanized; size and type to suit application.
- E. Fasteners: Provide fasteners as required for complete, secure installation of miscellaneous rough carpentry.
 - 1. Steel: Bolts or powder activated type.
- F. Hardwood Lumber: Graded in accordance with WIC Custom; of quality suitable for transparent finish. Species as directed by architect.
- G. Lumber for Shimming and blocking: Softwood lumber of Douglas fir species.
- H. Structural Plywood Backing: DOC PS 1; 1/2-inch plywood backing.
- I. Primer: Alkyd primer sealer type.
- J. Wood Filler: Solvent base, tinted to match surface finish color.
- K. Wood Treatment: Water Repellant Preservative Treatment by Dipping Method: NWWDA I.S.4, with 0.25 percent retainage.
- L. Wood Nailers
 - 1. All lumber for concealer blocking, roof curbs, roof nailers shall be preservative treated hemlock, pine, or fir and shall be new lumber of the best quality available, perfectly sound, well-seasoned, and free from sapwood, large loose or dead knots, streaks and evidence of disease or pests. Maximum moisture content shall be 15%.
- M. Building Paper
 - 1. 15 Lb. asphalt impregnated felt paper.
- N. Construction Adhesives
 - 1. Products of Contech Division of Rexnord Chemical Corporation or equal as approved by Architect.
 - a. Interior work dry areas – PL200
 - b. Exterior work and wet areas – PL400
 - c. Treated Wood – PL500

2.02 FABRICATION

- A. Wood Preservation: Treat lumber and plywood to comply with applicable requirements of American Wood Preservers Association.
 - 1. Decay Resistance Treatment: Pressure treat following items with water-borne preservatives for above ground use with AWP C-2.
 - a. Treat wood members in connection with roofing, flashing, vapor barriers and waterproofing.

- b. Treat wood members in contact with masonry, with concrete, and below grade.
 - c. Kiln-dry wood to a maximum moisture content of 19% after treatment with water-borne preservative.
- 2. Fire Retardant Treatment: Comply with AWPAs standards for pressure impregnation with fire-retardant chemicals to achieve flame-spread rating of not more than 25 in accordance with ASTM E84 or UL Test 723.
 - a. Treat interior wood and plywood complying with AWPAs C20 and C27, Interior Type A, and identify with FRTW.
 - 1) Exterior Type: Where indicated for exterior applications, provide fire treated wood passing ASTM D2898 rain test.
 - b. Provide UL label on each piece of fire-retardant wood and plywood.
 - c. Kiln-dry treated items to maximum moisture content of 19%.
- 3. Complete fabrication of treated items prior to treatment, wherever possible; if cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.
- 4. Inspect each piece after drying and discard damaged and defective pieces.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place miscellaneous rough carpentry true to lines and levels.
- B. Correlate location so attached work will comply with design requirements and be properly located.
- C. Construct members of continuous pieces of longest possible lengths.
- D. Fit carpentry work to other work; scribe and cope as required for accurate fit.
- E. Shim with metal or slate for bearing on concrete and masonry.
- F. Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards.
 - 1. Provide washers under bolt heads and nuts in contact with wood.
- G. Wood Blocking: Provide blocking of S4S lumber not less than 1-1/2" wide and of thickness required to provide adequate support or to properly locate attached material.
 - 1. Provide attachment to other work; form to shapes shown.
 - 2. Remove temporary blocking when no longer needed.

- H. Plywood: Comply with recommendations of American Plywood Association (APA) for fabrication and installation of plywood work.
 - 1. Provide attachment to other work; form to shapes shown.
 - 2. Align fasteners for exposed view aesthetic as shown.
 - 3. Fit carpentry work to other work.
 - 4. Adjust, trim and level.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Provide labor, material, equipment and services to furnish and install building insulation as shown on the drawings, as specified herein and as required for a complete and proper installation, including, but not limited to, the following:
 - 1. Thermal Insulation
 - 2. Acoustic Insulation – Not Used

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 SUBMITTALS

- A. Submit in accordance with Division 01, Submittals, Shop Drawings Product Data and Samples.
- B. Product Data: Furnish manufacturer's literature for each type of insulation.
 - 1. Submit Underwriter's Laboratory approval numbers for required fire ratings; approvals of other laboratories contingent upon acceptance of applicable authorities.
- C. Certificates: Stating the type, thickness and "R" value (thermal resistance) of the insulation to be installed.

1.04 STORAGE AND HANDLING

- A. Store insulation materials in weathertight enclosure.
- B. Protect insulation from damage from handling, weather and construction operations before, during, and after installation.

1.05 APPLICABLE STANDARDS: The latest edition of publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.

- A. California Building Codes (CBC) & Energy Codes (CEC)
- B. American Society for Testing and Materials (ASTM):
 - C552 Cellular Glass Block and Pipe Thermal Insulation

- C553 Mineral Fiber Blanket and Felt Insulation (Industrial Type)
- C578 Preformed Cellular Polystyrene Thermal Insulation
- C591 Unfaced Preformed Rigid Cellular Polyurethane Thermal Insulation
- C612 Mineral Fiber Block and Board Thermal Insulation
- C665 Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
- C728 Perlite Thermal Insulation Board
- C954 Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Base to Steel Studs From 0.033 inch to 0.112 inch in thickness
- C1002 Steel Drill Screws for the Application of Gypsum Board

PART 2 PRODUCTS

2.01 MATERIALS

- A. Thermal Batt Insulation: Thermafiber SAFB, preformed slag mineral or glass fiber with thermosetting resin binders, conforming to ASTM C665, Type 1, HH-I-521F, unfaced; formaldehyde-free and with no toxic materials. Flame Spread/Smoke Density Rating: Maximum 0/0, ASTM E84. Combustibility: Pass ASTM E136.
- B. Acoustical Insulation – Not Used.
- C. Rigid Insulation- Not Used.
- D. Fiberglass Roll Insulation with FSK(Foil-Scrim-Kraft) Facing – Owens Corning
- E. Accessories: Furnish as recommended by insulation manufacturer for insulation types, substrates, and conditions involved.
- F. Aerogel. – Not Used

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify substrate and adjacent materials are dry and ready to receive insulation; beginning installation signifies acceptance of conditions.
- B. Ensure mechanical and electrical items affecting work are properly placed, complete, and have been inspected by Architect prior to commencement of installation.

3.02 INSTALLATION

- A. Install batt or blanket insulation with tight joints and filling framing void completely. Seal cuts, tears, and un-lapped joints with tape.
- B. Fit insulation tight against adjoining construction and penetrations, unless specified otherwise. Install insulation in accordance with manufacturer's instructions.
- C. Cut and trim insulation neatly, to fit spaces.
- D. Fit insulation tight within spaces and tight to and behind mechanical and electrical services within insulation plane; leave no gaps or voids; maintain integrity of thermal barrier.
- E. Friction fit batt insulation in place; use tape or penetration supports as necessary to assure permanent installation.
- F. Fasten blanket insulation between metal studs and wall furring with continuous pressure sensitive tape along edges or adhesive.
- G. Pack insulation around door frames and windows and in cracks, expansion joints, control joints, door soffits and other voids. Pack behind outlets, around pipes, ducts, and services encased in wall or partition. Hold insulation in place with pressure sensitive tape or adhesive.
- H. Do not compress insulation below required thickness except where embedded items prevent required thickness.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Provide metal flashings and sheet metal including accessories as required for complete weather tight installation.
- B. Patch existing flashing and sheet metal as required by new construction.
- C. Provide concealed sealants used in conjunction with installation of metal flashing and sheet metal.
- D. Provide miscellaneous sheet metal flashing and reglets not provided by other trades or suppliers.
 - 1. Where reglets are to be installed in conjunction with other work, provide in adequate time for installation.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 SUBMITTALS

- A. Submit in accordance with Division 01, Submittals, Shop Drawings Product Data and Samples.
- B. Product Data: Furnish literature for manufactured products.
- C. Shop Drawings: Clearly indicate dimensioning, layout, general construction details including closures, flashings, locations and types of sealants, anchorages, and method of anchorage.
- D. Samples: Furnish samples of typical metal flashing fabrication indicating standard soldered joints and edge conditions.

1.04 QUALITY ASSURANCE

- A. Referenced Standards
 - 1. California Building Code (CBC), Current Edition.
 - 2. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual, Latest Edition

- B. Design Requirements: Allow for movement of components without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to 100-year seasonal temperature ranges.
- C. Sheet metal fabricator and installer shall have a minimum five (5) years of experience with shop fabrication and installation of shop-fabricated roofing metal and flashings.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Provide strippable film protective covering on shop finished flashing materials to protect materials through shipping, fabrication and installation.

1.06 WARRANTY

- A. Special Warranty: Provide for correcting failure of metal flashing system to resist penetration of water and damage from wind.
 - 1. Special Warranty Period: Two years.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Flashing and Sheet Metal:
 - 1. Minimum gauge of aluminum per SMACNA. Minimum gauge of gutters, downspouts and roof edge, .040 aluminum, 20ga.
- B. Flexible Flashings: Reinforced self- adhered flexible flashing.
- C. Solder and Fasteners: As recommended by SMACNA and complying with applicable codes and regulations; hot dipped galvanized minimum coating comparable to G90.
- D. Concealed Sealant: Butyl type for use in conjunction with sheet metal; non-staining; non-corrosive; non-shrinking and non-sagging; ultra-violet and ozone resistant for exterior concealed applications.
- E. Bituminous Paint: Acid and alkali resistant type; black color; asbestos free.
- F. Plastic Cement: Cutback asphaltic type; asbestos free.
- G. Sealing Compound: Type recommended by roofing manufacturer; asbestos free.
- H. Gaskets: Type suitable for use in conjunction with sheet metal; non-staining, non-corrosive, non-shrinking, non-sagging, ultra-violet resistant, and ozone resistant; for exterior concealed applications.
 - 1. Manufacturers:
 - a. Sandell Manufacturing Co./Polytite Joint Sealant.
 - b. Emseal USA, Inc./Emseal Secondary Seal.

2.02 FABRICATION

- A. Fabricate sheet metal in accordance with SMACNA Architectural Sheet Metal Manual.
- B. Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- C. Fabricate corners and intersections in shop with solder joints; watertight fabrication.
- D. Form sections in maximum 10'-0" lengths; make allowance for expansion at joints.
- E. Hem exposed edges on underside 1/2".
- F. Backpaint flashings with heavy bodied bituminous paint where in contact with cementitious materials or dissimilar metals.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install metal flashing and sheet metal in accordance with SMACNA Architectural Sheet Metal Manual.
 - 1. Install tight in place, with corners square, surfaces true and straight in planes, and lines accurate to profiles as indicated on Drawings.
 - 2. Lap joints in direction of water flow.
 - 3. Install self-adhering flexible flashings and overlap metal flashing joints and adjacent materials in direction of water flow.
- B. Exercise care when cutting materials on site, to ensure cuttings do not remain on finished surfaces.
- C. Provide expansion joints concealed within system.
- D. Use concealed fasteners, continuous cleat type, except where specifically approved by Architect.
 - 1. Exposed fasteners may be used, where clearly indicated on shop drawings and approved by the Owner, at areas not exposed at exterior walls nor in sight of interior spaces.
- E. Apply sealing compound at junction of metal flashing and felt flashing.
- F. Lock seams and end joints; fit flashing tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- G. Install flashings with minimum joints and as long of section as possible.
- H. Install sealants where required to prevent direct weather penetration.
 - 1. Install continuous gasket behind surface-applied reglets.

- I. Completed installation shall be free of rattles, noise due to thermal and air movement, and wind whistles.
- J. Install metal flashing at all intersections to protect waterproofing, insulation and gypsum sheathing from UV exposure.
- K. Install dam flashing at window, louvers, openings and at intersecting horizontal and vertical surfaces.

3.02 CLEANING

- A. Remove protective coating from shop finished sheet metal when no longer required to protect roofing and flashing from construction.
- B. Touch-up scratched and damaged finish to match new; remove and replace sheet metal units that cannot be repaired to look identical to adjacent sheet metal when viewed from 5'-0" away.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. This section specifies roof hatches, equipment supports; gravity ventilators; and metal grating roof walkway system.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 QUALITY ASSURANCE

- A. Provide roof accessories that are the products of manufacturers regularly engaged in producing the kinds of products specified.
- B. For each accessory type provide the same product made by the same manufacturer.
- C. Assemble each accessory to the greatest extent possible before delivery to the site.

1.04 SUBMITTALS

- A. Submit in accordance with Division 01
- B. Samples: Submit representative sample panel of color anodized aluminum not less than 101 x 101 mm (4 x 4 inches). For extrusions, submit width not less than section to be installed. Show coating with integral color and texture and include manufacturer's identifying label.
- C. Shop Drawings: Each item specified showing design, details of construction, installation and fastenings.
- D. Manufacturer's Literature and Data: Each item specified.
- E. Certificates: Stating that aluminum has been given specified thickness of anodizing.

1.05 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extend referenced. The publications are referenced in the text by the basic designation only.
- B. ASTM International (ASTM):
 - A653/A653M-20 Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) By the Hot-Dip Process

- | | |
|--------------------------|---|
| B209-14 | Aluminum and Aluminum-Alloy Sheet and Plate |
| B209M-14 | Aluminum and Aluminum-Alloy Sheet and Plate (Metric) |
| B221-14 | Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes |
| B221M-13 | Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric) |
| C726-17 | Mineral Wool Roof Insulation Board |
| C1289-19 | Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board |
| D1187/D1187M-97(2018)... | Asphalt-Base Emulsions for Use as Protective Coatings for Metal |
- C. National Association of Architectural Metal Manufacturers (NAAMM):
- AMP 500-06 Series Metal Finishes Manual
- D. American Architectural Manufacturers Association (AAMA):
- | | |
|---------|--|
| 2603-20 | Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix). |
| 2605-20 | Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Architectural Extrusions and Panels (with Coil Coating Appendix). |
| 611-14 | Anodized Architectural Aluminum |
| 621-02 | High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) and Zinc-Aluminum Coated Steel Substrates |
- E. American Society of Civil Engineers (ASCE):
- ASCE/SEI 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures
- F. U.S. Occupational Safety and Health Standards (OSHA):
- 29 CFR 1910 Subpart D Walking-Working Surfaces (1910.21-1910.30)

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aluminum, Extruded: ASTM B221M (B221).

- B. Aluminum Sheet: ASTM B209M (B209).
- C. Galvanized Sheet Steel: ASTM A653/A653M; G-90 coating.
- D. Asphalt Coating: ASTM D1187/D1187M, Type I, quick setting.

2.02 ROOF HATCH (SCUTTLE) – NOT USED

- A. Performance Characteristics:
 - 1. Cover to be reinforced to support a minimum live load of 195 kilogram per square meter (40 pounds per square foot) with a maximum deflection of 1/150th of the span or 97 kilogram per square meter (20 pounds per square foot) wind uplift.
 - 2. Operation of the Cover: Smooth and easy with controlled operation throughout the entire arc of opening and closing.
 - 3. Operation of the Cover: Not affected by temperature.
 - 4. Entire Hatch: Weathertight with fully welded corner joints on cover and curb.
- B. Shop fabricate from aluminum with mill finish.
- C. Curb and Cover:
 - 1. Exterior facing: Minimum 2.3 mm (0.09 inch) thick sheet aluminum with mill finish.
 - 2. Interior facing: Minimum 1 mm (0.04 inch) thick sheet aluminum.
 - 3. Minimum of 50 mm (2 inch) thick polyisocyanurate insulation (ASTM C1289) with a U-value = 0.47 W/mK (R-value = 12) between facings of cover and over exterior face of curb.
 - 4. Form exterior curb facing with an integral 76 mm (3 inch) wide roof flange and cap flashing minimum 2.3 mm (0.09 inch) thick sheet aluminum.
 - 5. Make curb 305 mm (12 inches) above finish roof surface.
 - 6. Form cover to lap curb and cap flashing.
 - 7. Size opening as shown on construction documents.
- D. Hardware:
 - 1. Provide spring snap latch with inside and outside operating handles and padlock hasp on inside. Provide two snap latches when hinge side is over 2100 mm (7 feet) long. Bolt hardware into heavy gauge channel reinforcement welded to the underside of the cover and concealed within the insulation space.
 - 2. Provide heavy duty pintle hinges.
 - 3. Provide automatic hold open and operating arm with enclosed torsion or compression spring lifting mechanism.

4. Latch Strike: Stamped component bolted or welded to the curb assembly.
 5. Automatically lock in the open position at not less than 70 degrees.
 6. Provide weather stripping at cover closure.
 7. Galvanize all hardware items.
- E. Assembly:
1. Shop assemble roof scuttle.
 2. Weld joints exposed to the weather and built into the roofing.
 3. Finish weld smooth where exposed.
- F. Safety Accessories:
1. Ladder Assist Post: Provide a telescoping tubular section that locks automatically when fully extended. Control upward and downward movement by a stainless steel spring balancing mechanism. Provide unit completely assembled with fasteners for securing to the ladder rungs in accordance with the manufacturer's instructions.
 2. Safety Railing: Provide a fixed, attached to the roof hatch railing assembly including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; complying with 29 CFR 1910.23 requirements.

2.03 EQUIPMENT SUPPORTS

- A. Supported Load Capacity: 5000 lbs.
- B. Fabricate equipment supports from 1.3 mm (0.0516 inch) thick galvanized ASTM A653/A653M steel fabricate with welded corners and with seams joined by continuous water and air tight welds.
- C. Equipment supports to be internally reinforced with angles 1.22 m (48 inches) on center.
- D. Form exterior curb with integral base, and deck closures for curbs installed on steel decking.
- E. Use galvanized steel liners for curbs having inside dimension over 305 mm (12 inches).
- F. Internally insulate with 38 mm (1-1/2 inch) glass-fiber board insulation (ASTM C726).
- G. Fabricate curb with a minimum height of 203 mm (8 inches) above roof surface.
- H. Attach preservative treated wood nailers to top of curb. Provide 50 mm (2 inch) by 50 mm (2 inch) minimum nominal size on curb with openings and 50 mm (2 inch) thick, width of curb up to 305 mm (12 inches) on equipment support curbs.
- I. Make size of supports suit size of equipment furnished, with height as shown on construction documents, but not less than 203 mm (8 inches) above roof surface.

- J. Top of Equipment Supports: Level with pitch built into curb when deck slopes. Equip supports with water diverter or cricket on side that obstructs water flow.

2.04 LOW SILHOUETTE GRAVITY VENTILATORS – NOT USED

- A. Fabricate base of 1 mm (0.04 inch) thick aluminum, and vent of 0.8 mm (0.032 inch) thick aluminum.
 - 1. Height not to exceed 305 mm (12 inches) above top of roof curb.
 - 2. Design ventilators to withstand 137 Km (85 miles) per hour wind velocity.
 - 3. Provide ventilators with a removable 18 by 18 mesh by 0.28 mm (0.11 inch) diameter aluminum wire cloth insect screen.
 - 4. Provide security grille where indicated on construction documents.
- B. Construct damper of the same material as the ventilator and design to completely close opening or remain wide open. Hold damper in closed position by a brass chain and catch. Extend chains 305 mm (12 inches) below and engage catch when damper is closed.
- C. Finish: N/P; color N/P.

2.05 METAL GRATING ROOF WALKWAY SYSTEM – NOT USED

2.06 FINISH:

- A. In accordance with NAAMM AMP 500 Series.
- B. Aluminum, Mill Finish: AA-MIX, as fabricated.
- C. Aluminum, Clear Finish AAMA 611: AA-M12C22A41 medium matte, clear anodic coating, Class I, Architectural, 0.018 mm (0.7 mils) thick (min.)
- D. Aluminum Colored Finish AAMA 611: AA-C22A42 (anodized or AA-M12C22A44 (electrolytically deposited metallic compound) medium matte, integrally colored coating, /Class 1, Architectural, 0.018 mm (0.7 mils) thick (min.). Dyes will not be accepted.
- E. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 0.04 mm (1.5 mils). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
- F. Fluoropolymer Finish: High performance organic coating. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
 - 1. Two-Coat Fluoropolymer Finish: AAMA 2605. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.
 - 2. Two-Coat Fluoropolymer Finish: AAMA 621. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.

PART 3 EXECUTION**3.01 INSTALLATION**

- A. Install roof specialties where indicated on construction documents.
- B. Secure with fasteners in accordance with manufacture's printed installation instructions and approved shop drawings unless shown otherwise.
- C. Coordinate to install insulation where shown; see Section 07 21 13, THERMAL INSULATION and Section 07 21 00, BUILDING INSULATION.
- D. Comply with section 07 92 00, JOINT SEALANTS to install sealants where required by manufactures installation instructions require sealant.
- E. Coordinate with roofing work for installation of items in sequence to prevent water infiltration.
 - 1. After completion of base flashing bend down cap flashing flange and secure to blocking with screws.
 - 2. Install expansion joint cover with 6 mm (1/4 inch) wide space at end joints and tension bars at 610 mm (24 inches) on center.
 - 3. Install cover plates with formed aluminum flashing concealed and centered on joint. Flashing to lap cover not less than 101 mm (4 inches).
- F. Equipment Supports: Do not anchor to insulating concrete or metal deck. Anchor only to building structure as per manufacturers recommendations.

3.02 PROTECTION OF ALUMINUM

- A. Provide protection for aluminum against galvanic action wherever dissimilar materials are in contact, by painting the contact surfaces of the dissimilar material with two (2) coats of asphalt coating (complete coverage), or by separating the contact surfaces with a preformed neoprene tape having pressure sensitive adhesive coating on side.
- B. Paint aluminum in contact with wood, concrete and masonry, or other absorptive materials, that may become repeatedly wet, with two coats of asphalt coating.

3.03 ADJUSTING**3.04 PROTECTION**

- A. Protect roof accessories from damage during installation and after completion of the work from subsequent construction.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Provide joint sealants, for interior and exterior joints not specified elsewhere, with backing rods and accessories as required for complete installation. Joint sealers include sealants and caulking as indicated.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 SUBMITTALS

- A. Submit in accordance with Division 01, Submittals, Shop Drawings Product Data and Samples.
- B. Product Data: Furnish manufacturer's descriptive literature.
- C. Samples: Furnish samples of each type of exposed joint sealer in required colors.
- D. Certifications:
 - 1. Furnish manufacturer's certification joint sealers comply with Contract Documents and are suitable for Project applications.
 - 2. Furnish certification indicating installers are trained in proper use of specified products, qualified, and familiar with proper installation techniques.

1.04 QUALITY ASSURANCE

- A. Performance Requirements:
 - 1. Select materials for compatibility with joint surfaces and indicated exposures.
 - 2. Where not indicated, select modulus of elasticity and hardness or grade recommended by manufacturer for each application indicated.
 - 3. Comply with applicable limitations on volatile organic compound (VOC) emissions.
- B. Installer Qualifications: Firm with minimum five years successful experience on projects of similar type and size, using specified products.
 - 1. Installers shall be familiar with proper application procedures to ensure maximum joint sealer expansion and contraction capabilities.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, cure time, and mixing instructions.

1.06 SITE CONDITIONS

- A. Do not proceed with installation of joint sealers under unfavorable weather conditions.
- B. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer.

1.07 WARRANTY

- A. Special Warranty: Repair or replace joint sealers which fail to perform as intended, because of leaking, crumbling, hardening, shrinkage, bleeding, sagging, staining and loss of adhesion.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Elastomeric Sealants:
 - 1. Single-Component Low Modulus Silicone Sealant: ASTM C920 Type S, Class 25, Grade NS; minimum 50% expansion and compaction capability.
 - a. Provide at exterior locations not exposed to traffic.
 - b. Manufacturers:
 - 1) General Electric Co./Silpruf, Silglaz or GESIL.
 - 2) Dow Corning Corp./790 or 795.
 - 3) Pecora Corp./864 Architectural Silicone.
 - 4) Tremco/Spectrum 3.
 - 2. Multi-Component Polyurethane Sealant: ASTM C920, Type M, Grade P, Class 25, self-leveling; minimum 25% expansion and compaction capability.
 - a. Provide following at traffic bearing locations.
 - b. Manufacturers:
 - 1) Pecora Corp./NR-200 Urexpan.
 - 2) Tremco/Vulkem 245.
 - 3) Sonneborn Division of ChemRex /SL 2

3. Mildew-Resistant Silicone Rubber Sealant: ASTM C920, Type S, Grade NS, Class 25, compounded with fungicide, specifically for mildew resistance and recommended for interior joints in wet areas.
 - a. Provide at interior joints in wet areas.
 - b. Manufacturers:
 - 1) General Electric Co./SCS 1702 Sanitary Sealant.
 - 2) Dow Corning Corp./786 Bathtub Caulk.
 - 3) Pecora Corp./863 #345 White.
 - 4) Tremco/Tremsil 200.
- B. Non-Elastomeric Sealants:
 1. Acrylic-Emulsion Sealant: ASTM C834 acrylic or latex-rubber-modified acrylic sealant, permanently flexible, non-staining and non-bleeding; recommended for general interior exposure; compatible with paints specified in Section 09 90 00.
 - a. Provide at general interior applications.
 - b. Manufacturers:
 - 1) Pecora Corp./AC-20.
 - 2) Sonneborn Division of ChemRex/Sonolac.
 - 3) Tremco/Ultrem 1500
- C. Miscellaneous Materials:
 1. Primers/Sealers: Non-staining types recommended by joint sealer manufacturer for joint surfaces to be primed or sealed.
 2. Joint Cleaners: Non-corrosive types recommended by joint sealer manufacturer; compatible with joint forming materials.
 3. Bond Breaker Tape: Polyethylene tape as recommended by joint sealer manufacturer where bond to substrate or joint filler must be avoided for proper performance of joint sealer.
 4. Sealant Backer Rod: Compressible polyethylene foam rod or other flexible, permanent, durable non-absorptive material as recommended by joint sealer manufacturer for compatibility with joint sealer.
 - a. Oversize backer rod minimum 30% to 50% of joint opening.
- D. Colors: Provide colors indicated or as selected by Architect from manufacturer's full range of colors.

PART 3 EXECUTION**3.01 PREPARATION**

- A. Prepare joint surfaces in accordance with ASTM C1193 and as recommended by joint sealer manufacturer.
- B. Clean joint surfaces immediately before installation of joint sealer; remove dirt, insecure materials, moisture and other substances which could interfere with bond of joint sealer.
- C. Prime or seal joint surfaces where recommended by joint sealer manufacturer; do not allow primer/sealer to spill or migrate onto adjoining surfaces.
- D. Ensure protective coatings on surfaces in contact with joint sealers have been completely stripped.

3.02 INSTALLATION

- A. Comply with manufacturer's printed instructions and ASTM C1193, except where more stringent requirements are shown or specified.
- B. Set sealant backer rods at proper depth or position in joint to coordinate with other work, including installation of bond breakers and sealant; do not leave voids or gaps between ends of backer rods.
 - 1. Do not stretch, twist, puncture or tear backer rods.
- C. Install bond breaker tape where required by manufacturer's recommendations to ensure joint sealers will perform properly.
- D. Size materials to achieve required width/depth ratios.
- E. Employ installation techniques that will ensure joint sealers are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of bond surfaces equally on opposite sides.
- F. Joint Configuration: Fill sealant joint to a slightly concave surface, slightly below adjoining surfaces, unless otherwise indicated.
- G. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture or dirt.
- H. Install joint sealers to depths recommended by joint sealer manufacturer but within the following general limitations, measured at center (thin) section of bead.
 - 1. Horizontal Joints: 75% width with minimum depth of 3/8".
 - 2. Elastomeric Joints: 50% width with minimum depth of 1/4".
 - 3. Non-Elastomeric Joints: 75% to 125% of joint width.
- I. Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into voids of adjoining surfaces.

- 1. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.
- J. Cure joint sealers in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.
- K. Maintain finished joints free of embedded matter, ridges and sags.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Section Includes: Provide gypsum board systems including gypsum board, joint treatment, acoustical accessories, and general accessories for complete installation.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 SUBMITTALS

- A. Submit in accordance with Division 01, Submittals, Shop Drawings Product Data and Samples.
- B. Product Data: Furnish manufacturer's literature for gypsum board, insulation, and acoustical accessories.
- C. Manufacturer's Certification: Furnish manufacturer's certification indicating products comply with Contract Documents and applicable codes.

1.04 PROJECT CONDITIONS

- A. Do not begin installation of interior gypsum board until space is enclosed, space is not exposed to other sources of water, and space is free of standing water.
- B. Maintain areas to receive gypsum board at minimum 50 degrees F for 48 hours prior to application and continuously after application until drying of joint compound is complete; comply with ASTM C840.
- C. Immediately remove from site gypsum board for interior use exposed to water, including gypsum board with water stains, with signs of mold, and gypsum board with mildew.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. National Gypsum Co.
- B. Georgia-Pacific Corp.
- C. United States Gypsum Co., USG Corp.

2.02 PERFORMANCE REQUIREMENTS

- A. General: Perform gypsum board work in accordance with ASTM C840 unless otherwise specified.

2.03 MATERIALS

- A. Gypsum Board: Comply with ASTM C840; maximum permissible lengths; ends square cut, tapered edges on boards to be finished.
 - 1. Typical: ASTM C1396, Type X, fire rated gypsum board, unless otherwise indicated.
 - 2. Abuse Resistive: ASTM C1629, 16 mm (5/8 inch) thick., Type X.
- B. Gypsum Board Accessories: Comply with ASTM C840.
 - 1. Provide protective coated steel corner beads and edge trim; type designed to be concealed in finished construction by tape and joint compound.
 - 2. Corner Beads: Manufacturer's standard metal beads.
 - 3. Edge Trim: "J", "L", "LK", or "LC" casing beads.
 - 4. Reinforcing Tape, Joint Compound, Adhesive, Water, Fasteners: Types recommended by system manufacturer and conforming to ASTM C475.
 - a. Typical Joint Compound: Chemical hardening type for bedding and filling, ready-mixed or powder vinyl type for topping.
 - 5. Control Joints: Back to back casing beads.
 - a. Back control joints with 4 mil thick polyethylene air seal.
- C. Acoustical Accessories:
 - 1. Acoustical Sealant: ASTM C919, type recommended for use in conjunction with gypsum board. Paintable, non-shrinking and non-cracking where exposed, non-drying, non-skinning, non-staining, and non-bleeding where concealed. Provide as required for acoustical ratings and at non-fire-rated partitions to seal edges of gypsum board.
 - 2. Electrical Box Pads: Provide at outlet, switch and telephone boxes in walls with acoustical insulation.
 - a. Manufacturers for Non-Fire Rated Partitions:
 - 1) Harry A. Lowry & Associates (800.772.2521)/Lowry's Electrical Box Pads.
 - 2) Tremco Sheet Caulking (650.572.1656).

PART 3 EXECUTION**3.01 INSTALLATION**

- A. Openings: Obtain dimensions and locations from other trades and provide openings and enclosures for accessories, specialties, equipment, and ductwork.
- B. Gypsum Board Installation: Install in accordance with ASTM C840 and manufacturer's recommendations.
 - 1. Use screws when fastening gypsum board to furring and to framing.
 - 2. Erect gypsum board with ends and edges occurring over firm bearing.
 - a. Ensure joints of second layer do not occur over joints of first layer in double layer applications.
 - 3. Place control joints to be consistent with lines of building spaces and as directed by Architect.
 - a. Provide where system abuts structural elements.
 - b. Provide at dissimilar materials.
 - c. Wings of "L", "U" and "T" shaped ceilings.
 - 4. Place corner beads at external corners; use longest practical lengths.
 - 5. Place edge trim where gypsum board abuts dissimilar materials.
 - 6. Tape, fill, and sand exposed joints, edges, corners and openings to produce surface ready to receive finishes; feather coats onto adjoining surfaces.
 - 7. Finishing: Comply with Gypsum Association (GA) "Levels of Gypsum Board Finish".
 - a. Level 4, three-coat finish to achieve special smooth surface ready for applied paint finishes.
 - 8. Remove and replace defective work.
- C. Acoustical Accessories Installation:
 - 1. Place acoustical insulation tight within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
 - 2. Place acoustical sealant within partitions in accordance with manufacturer's recommendations; install acoustical sealant at gypsum board perimeter at:
 - a. Wood Framing: One or two beads.
 - b. Base layer and face layer.
 - c. Penetrations of partitions.

3. Tolerance: Maximum 1/4" space between gypsum board at floor, ceiling, and penetrations.
4. Install electrical box pads with pads molded and pressed on back side of box, closing openings, in accordance with manufacturer's instructions, for complete acoustical barrier.

END OF SECTION

PART 1 GENERAL**1.01 DESCRIPTION**

- A. Painting and finishing of exposed exterior and interior surfaces as required to complete finishing of the Work as indicated on the Drawings including the following items:
 - 1. Mechanical diffusers.
 - 2. Visible interior of ductwork.
 - 3. Electrical Sub-panels painted to match adjacent wall surface.
 - 4. Visible piping and electrical components.
- B. The Work includes painting and finishing of new and existing interior and exterior exposed items and surfaces throughout project, except as otherwise indicated.
 - 1. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
- C. Surfaces Not to be Painted:
 - 1. Factory pre-finished items as specified in various Sections.
 - 2. Pre-finished wall, ceiling, and floor coverings.
 - 3. Painting specified elsewhere and included in respective Sections, including but not necessarily limited to, shop priming.
 - 4. Code-Required Labels: Keep equipment identification and fire rating labels free of paint.
 - 5. Surfaces concealed in walls and above ceilings except as specifically indicated otherwise.
 - 6. Ducts, piping, conduit, and equipment concealed in walls and ceilings, unless specifically indicated otherwise.
- D. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- E. Paint exposed surfaces whether or not colors are designated in "schedules", except where natural finish of material is specifically noted as a surface not to be painted. Where items or surfaces are not specifically mentioned, paint same as adjacent similar materials or areas. If color of finish is not designated, Architect will select these from standard colors available for materials systems specified.

1.02 RELATED SECTIONS

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
2. All Specification Sections listed in the Table of Contents.

1.03 SUBMITTALS

- A. Submit in accordance with Division 01, Submittals, Shop Drawings Product Data and Samples.
- B. Product Data:
 1. Not less than 30 days before beginning work, submit a complete list of materials proposed for use, together with manufacturer's specifications.
 2. Paint materials and products shall be subject to the Architect's acceptance.
- C. Samples:
 1. Custom and Stock Colors: Submit 8x8 inch brush-out samples for Architect's review of each color and texture. Provide a listing of material and application for each coat of each finish sample.
 2. Samples shall be resubmitted as requested until required sheen, color, and texture is achieved.
 3. Label and identify each sample as to location and application.
- D. Field Samples: On actual wall surfaces and other exterior and interior building components in areas designated by Architect, duplicate painted finishes of prepared samples in 4 ft. sq. areas. Simulate finished lighting conditions for Architect's and Owner's review of in-place Work. Colors may require adjustment at no additional cost to Owner.

1.04 QUALITY ASSURANCE

- A. Include on label of containers:
 1. Manufacturer's name
 2. Type of paint
 3. Manufacturer's stock number
 4. Color
 5. Instructions for reducing, where applicable
- B. Field Quality Control:
 1. Request review by the Architect of first finished room, space, or item of each color scheme required for color, texture, and workmanship.

2. Use first acceptable room, space, or item as the Project standard for each color scheme.
- C. Regulatory Requirements:
1. Comply with the regulations of California Green Building Code and the Southern California Air Quality Management District (SCAQMD) for Volatile Organic Contents (VOC's).
 2. Paint shall be certified by the manufacturer as "non-lead" (less than 0.06 percent lead by weight in the dried film) as defined in Part 1303 of the Consumer Product Safety Act.

1.05 DELIVERY AND STORAGE

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:
1. Name or title of material
 2. Manufacturer's stock number and date of manufacturer
 3. Manufacturer's name
 4. Contents by volume, for major pigment and vehicle constituents
 5. Thinning instructions
 6. Application instructions
 7. Color name and number
- B. Storage of Materials:
1. Store only acceptable project materials on project site.
 2. Store in a suitable location.
 3. Restrict storage to paint materials and related equipment.
 4. Comply with health and fire regulations.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements:
1. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be stored and applied.
 2. Do not apply paint in rain, fog or mist; or when relative humidity exceeds 85%; or to damp or wet surfaces; unless otherwise permitted by paint manufacturer's printed instructions.

3. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

1.07 WARRANTY

A. Color and Life of Film:

1. At the end of 1 year, colors of surfaces shall have remained free from serious fading, and variations (if any) shall be uniform.
2. Materials shall have their original adherence at end of 1 year and there shall be no evidence of blistering, running, peeling, scaling, chalking, streaking, or stains at end of this period.

1.08 MAINTENANCE

A. Extra Materials:

1. At completion of the Work, deliver to the Owner extra stock of paint equaling approximately 5 percent of each color used in each coating material used.
2. Stock shall be in tightly sealed and clearly labeled containers.

1.09 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by basic designation only.
- B. California Building Codes (CBC) and California Green Building Code (CALGreen)
- C. American Conference of Governmental Industrial Hygienists (ACGIH):
ACGIH TLV-BKLT-2012 Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)

ACGIH TLV-DOC-2012 Documentation of Threshold Limit Values and Biological Exposure Indices, (Seventh Edition)
- D. ASME International (ASME):
A13.1-07(R2013) Scheme for the Identification of Piping Systems
- E. Commercial Item Description (CID):
A-A-1272A Plaster Gypsum (Spackling Compound)
- F. Master Painters Institute (MPI):
1 Aluminum Paint

3	Primer, Alkali Resistant, Water Based
4	Interior/ Exterior Latex Block Filler
5	Exterior Alkyd Wood Primer
6	Exterior, Latex for Exterior Wood Primer
7	Exterior Oil Wood Primer
8	Exterior Alkyd, Flat MPI Gloss Level 1
9	Exterior Alkyd Enamel MPI Gloss Level 6
10	Exterior Latex, Flat
11	Exterior Latex, Semi-Gloss
15	Exterior Latex, Low Sheen (MPI Gloss Level 3-4)
17	Primer, Bonding, Waterbased
18	Organic Zinc Rich Primer
22	Aluminum Paint, High Heat (up to 590° - 1100F)
23	Primer, Metal, Surface Tolerant
27	Exterior / Interior Alkyd Floor Enamel, Gloss
31	Polyurethane, Moisture Cured, Clear Gloss
36	Knot Sealer
39	Primer, Latex, for Interior Wood
40	Exterior, Latex High Build
42	Textured Coating, Latex, Flat
43	Interior Satin Latex, MPI Gloss Level 4
44	Interior Low Sheen Latex, MPI Gloss Level 2

45	Interior Primer Sealer
46	Interior Enamel Undercoat
47	Interior Alkyd, Semi-Gloss, MPI Gloss Level 5
48	Interior Alkyd, Gloss, MPI Gloss Level 6
50	Interior Latex Primer Sealer
51	Interior Alkyd, Eggshell, MPI Gloss Level 3
52	Interior Latex, MPI Gloss Level 3
53	Interior Latex, Flat, MPI Gloss Level 1
54	Interior Latex, Semi-Gloss, MPI Gloss Level 5
59	Interior/Exterior Alkyd Porch & Floor Enamel, Low Gloss
60	Interior/Exterior Latex Porch & Floor Paint, Low Gloss
66	Interior Alkyd Fire Retardant, Clear Top-Coat (ULC Approved)
67	Interior Latex Fire Retardant, Top-Coat (ULC Approved)
68	Interior/ Exterior Latex Porch & Floor Paint, Gloss
71	Polyurethane, Moisture Cured, Clear, Flat
77	Epoxy Cold Cured, Gloss
79	Marine Alkyd Metal Primer
90	Interior Wood Stain, Semi-Transparent
91	Wood Filler Paste
94	Exterior Alkyd, Semi-Gloss
95	Fast Drying Metal Primer
98	High Build Epoxy Coating

99	Sealer, Water-based, for Concrete Floors
101	Epoxy Anti-Corrosive Metal Primer
107	Primer, Rust-Inhibitive, Water-based
108	High Build Epoxy Coating, Low Gloss
113	Elastomeric, Pigmented, Exterior, Water-based, Flat
114	Interior Latex, Gloss
115	Epoxy-Modified Latex, Interior Gloss (MPI gloss level 6)
118	Dry Fall, Latex Flat
119	Exterior Latex, High Gloss (acrylic)
134	Galvanized Water Based Primer
135	Non-Cementitious Galvanized Primer
138	Interior High Performance Latex, MPI Gloss Level 2
139	Interior High Performance Latex, MPI Gloss Level 3
140	Interior High Performance Latex, MPI Gloss Level 4
141	Interior High Performance Latex (SG) MPI Gloss Level 5
144	Latex, Interior, Institutional Low Odor / VOC, (MPI Gloss Level 2)
145	Latex, Interior, Institutional Low Odor / VOC, (MPI Gloss Level 3)
146	Latex, Interior, Institutional Low Odor / VOC, (MPI Gloss Level 4)
151	Light Industrial Coating, Interior, Water-based, (MPI Gloss Level 3)
153	Light Industrial Coating, Interior, Water-based, (MPI Gloss Level 4)
163	Exterior Water Based Semi-Gloss Light Industrial Coating, MPI

Gloss Level 5

164

Exterior, Water Based, Gloss, Light Industrial Coating, MPI
Gloss Level 6

H. Society for Protective Coatings (SSPC):

SSPC SP 1-82(R2004)	Solvent Cleaning
SSPC SP 2-82(R2004)	Hand Tool Cleaning
SSPC SP 3-28(R2004)	Power Tool Cleaning
SSPC SP 10/NACE No.2	Near-White Blast Cleaning
SSPC PA Guide 10	Guide to Safety and Health Requirements

I. Maple Flooring Manufacturer's Association (MFMA):

K. Underwriter's Laboratory (UL)

PART 2 PRODUCTS

2.01 MATERIALS

- A. Product numbers specified in Article 3.06, "Paint Systems", are as manufactured by Sherwin Williams, unless otherwise indicated. Equivalent products manufactured by Sinclair Paint Co., Benjamin Moore, Dunn-Edwards, ICI Paints, Fuller O'Brien or Glidden are acceptable.
- B. Materials selected for coating system of each type of surface shall be the product of a single manufacturer.
- C. Thinner: As recommended by each manufacturer for his respective product for use only within recommended limits.
- D. Colors used shall be selected for their permanence and non-fading qualities. In addition, colors that are used over concrete and plaster surfaces shall be lime-proof.
- E. Unsuitability of Specified Products: Claims concerning unsuitability of any materials specified will not be entertained, unless such claim is made in writing to the Architect before the Work is started.
- F. Texturing: Match texture of adjacent textures when new materials abut textured areas.

2.02 MATERIAL QUALITY

- A. Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

2.03 COLORS

- A. Colors: Colors to be selected by Architect from manufacturer's color chart.
- B. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.
- C. Paint Coordination: Provide finish coats which are compatible with prime paints used. Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish material proposed for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and re-prime as required. Notify Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

2.04 MIXING AND TINTING

- A. Deliver paints ready mixed to jobsite.
- B. Accomplish job mixing and job tinting only when acceptable to the Architect.
- C. Mix only in mixing pails placed in suitable sized nonferrous or oxide-resistant metal pans.
- D. Use tinting colors recommended by manufacturer for specific type of finish.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

3.02 SURFACE PREPARATION

- A. General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.
- B. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.
- C. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces. Do not paint until all interior gypsum board is installed, taped and sanded.
- D. Gypsum Board:
 - 1. Fill narrow, shallow cracks and small holes with spackling compound.
 - 2. Rake deep, wide cracks and deep holes.
 - a. Dampen with clear water.
 - b. Fill with thin layers of drywall joint cement.
 - 3. Allow to dry.
 - 4. Sand smooth after drying; do not raise nap of paper on gypsum board.
- E. Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
 - 1. Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.
- F. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum-based solvent.
- G. Surfaces which cannot be prepared or painted as specified shall be immediately brought to the attention of the Architect in writing.
 - 1. Starting of work without such notification will be considered acceptance by the Contractor of surface involved.
 - 2. Contractor shall replace unsatisfactory work caused by improper or defective surfaces, as directed by the Architect, at no additional cost to the Owner.

3.03 MATERIALS PREPARATION

- A. Mix and prepare painting materials in accordance with manufacturer's directions.

- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.
- C. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

3.04 APPLICATION

- A. General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment.
 - 3. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.
 - 4. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise indicated.
- B. Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pre-treated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. Allow sufficient time between successive coatings to permit proper drying. Do not re-coat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
- C. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.
- D. Prime Coats: Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.
 - 1. Re-coat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- E. Stipple Eggshell Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.
- F. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting,

holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.

3.05 CLEAN-UP AND PROTECTION

- A. Clean-up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.
 - 1. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- B. Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
 - 1. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
 - 2. At the completion of work of other trades, touch up and restore all damaged or defaced painted surfaces.

3.06 PAINT SYSTEMS

- A. General:
 - 1. Exterior paint systems are specified and identified by number and interior paint systems by letter.
 - 2. Only major areas are scheduled, but miscellaneous and similar items and areas within room or space shall be treated with suitable system.
 - 3. Number of coats scheduled is minimum.
 - a. Additional coats shall be applied at no additional cost if necessary to completely hide base material, produce uniform color, and provide satisfactory finish result.
 - 4. This specification shall serve as a guide and is meant to establish procedure and quality.
- B. Acceptance of Final Colors: Final coat of paint for both exterior and interior shall not be applied until colors have been accepted by the Architect based on Field Samples noted in 1.03.C above.
- C. Interior Coating Systems: Provide the following finish coating systems for the various substrates, as shown on the Finish Plan. Provide coats as indicated and sufficient to cover.
 - 1. Gypsum:
 - a. Flat: (ceilings, except as noted)
 - 1) Prime Coat: MPI 50 PVA Sealer.

- 2) Second Coat: One coat MPI 45 Alkyd Wall Primer Sealer.
 - 3) Finish Coat: One coat MPI 53 Flat Latex Wall Finish.
- b. Stipple Eggshell: (walls, except as noted)
 - 1) Prime Coat: One coat MPI 50 PVA Sealer.
 - 2) Second Coat: MPI 44 Satin Latex Stipple.
 - 3) Finish Coat: One coat MPI 144 Eggshell Latex Enamel.
- 2. Galvanized Metal (trim and access doors, except structural steel, etc.):
 - a. Semi-gloss:
 - 1) Prime Coat (delete if shop primed): One coat MPI 79 Alkyd Metal Primer.
 - 2) Two coats MPI 81 Alkyd Semi-Gloss Enamel.
- 3. Ferrous Metal or Aluminum (miscellaneous)
 - a. Semi-gloss:
 - 1) Prime Coat (delete if shop primed): MPI 79 Red Oxide Primer
 - 2) Second Coat: MPI 39 Latex Enamel Undercoater
 - 3) Finish Coat: 4000 Acrylic Latex Enamel

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

- A. Provide seismic restraint in accordance with the requirements of this section in order to maintain the integrity of nonstructural components of the building so that they remain safe and functional in case of seismic event.
- B. Definitions: Non-structural building components are components or systems that are not part of the building's structural system whether inside or outside, above or below grade. Non-structural components of buildings include:
 - 1. Electrical Elements: Power and lighting systems; selector and controller panels; fire protection and alarm systems; and telephone and communication systems.
 - 2. Mechanical Elements: Heating, ventilating, and air-conditioning systems; roof drainage piping; sprinkler systems.

1.02 RELATED WORK

- A. All Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.
 - 2. All Specification Sections listed in the Table of Contents.

1.03 QUALITY CONTROL

- A. Shop-Drawing Preparation:
 - 1. Have seismic-force-restraint shop drawings and calculations prepared by a professional structural engineer experienced in the area of seismic force restraints. The professional structural engineer shall be registered in California.
 - 2. Submit design tables and information used for the design-force levels, stamped and signed by a professional structural engineer registered in California.
- B. Coordination:
 - 1. Do not install seismic restraints until seismic restraint submittals are approved by the Owner.
 - 2. Coordinate and install trapezes or other multi-pipe hanger systems prior to pipe installation.
- C. Seismic Certification: Permanent equipment and components are to have Special Seismic Certification in accordance with requirements of section 13.2.2 of ASCE 7, and shall comply with section 13.2.6 of ASCE 7.

1.04 SUBMITTALS

- A. Submit in accordance with Division 01, SUBMITTAL PROCEDURES.
- B. Submit a coordinated set of equipment anchorage drawings prior to installation including:
 - 1. Description, layout, and location of items to be anchored or braced with anchorage or brace points noted and dimensioned.
 - 2. Details of anchorage or bracing at large scale with all members, parts brackets shown, together with all connections, bolts, welds etc. clearly identified and specified.
 - 3. Numerical value of design seismic brace loads.
 - 4. For expansion bolts, include design load and capacity if different from those specified.
- C. Submit prior to installation, a coordinated set of bracing drawings for seismic protection of piping, with data identifying the various support-to-structure connections and seismic bracing structural connections, include:
 - 1. Single-line piping diagrams on a floor-by-floor basis. Show all suspended piping for a given floor on the same plan.
 - 2. Type of pipe (Copper, steel, cast iron, insulated, non-insulated, etc.).
 - 3. Pipe contents.
 - 4. Structural framing.
 - 5. Location of all gravity load pipe supports and spacing requirements.
 - 6. Numerical value of gravity load reactions.
 - 7. Location of all seismic bracing.
 - 8. Numerical value of applied seismic brace loads.
 - 9. Type of connection (Vertical support, vertical support with seismic brace etc.).
 - 10. Seismic brace reaction type (tension or compression): Details illustrating all support and bracing components, methods of connections, and specific anchors to be used.
- D. Submit prior to installation, bracing drawings for seismic protection of suspended ductwork and suspended electrical and communication cables, include:
 - 1. Details illustrating all support and bracing components, methods of connection, and specific anchors to be used.
 - 2. Numerical value of applied gravity and seismic loads and seismic loads acting on support and bracing components.
 - 3. Maximum spacing of hangers and bracing.

4. Seal of registered structural engineer responsible for design.
- E. Submit design calculations prepared and sealed by the registered structural engineer specified above in paragraph 1.03A.

1.05 APPLICABLE PUBLICATIONS

- A. The Publications listed below (including amendments, addenda revisions, supplements and errata) form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only.
 1. American Society of Civil Engineers (ASCE 7) Latest Edition.
 2. California Building Code (CBC)
 3. National Uniform Seismic Installation Guidelines (NUSIG)
 4. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Seismic Restraint Manual - Guidelines for Mechanical Systems, 3RD EDITION 2008 and Addendum

1.06 REGULATORY REQUIREMENT

- A. California Building Code, current edition.
- B. Exceptions: The seismic restraint of the following items may be omitted:
 1. Equipment weighing less than 400 pounds, which is supported directly on the floor or roof.
 2. Equipment weighing less than 20 pounds, which is suspended from the roof or floor or hung from a wall.
 3. Gas piping less than 2 ½ inches inside diameter.
 4. Piping in boiler plants and equipment rooms less than 1 ¼ inches inside diameter.
 5. All other piping less than 2 ½ inches inside diameter, except for automatic fire suppression systems.
 6. All piping suspended by individual hangers, 12 inches or less in length from the top of pipe to the bottom of the support for the hanger.
 7. All electrical conduits, less than 2 ½ inches inside diameter.
 8. All rectangular air handling ducts less than six square feet in cross sectional area.
 9. All round air handling ducts less than 28 inches in diameter.
 10. All ducts suspended by hangers 12 inches or less in length from the top of the duct to the bottom of support for the hanger.

PART 2 PRODUCTS – NOT USED**PART 3 EXECUTION****3.01 CONSTRUCTION, GENERAL**

- A. Provide equipment supports and anchoring devices to withstand the seismic design forces, so that when seismic design forces are applied, the equipment cannot displace, overturn, or become inoperable.
- B. Provide anchorages in conformance with recommendations of the equipment manufacturer and as shown on approved shop drawings and calculations.
- C. Construct seismic restraints and anchorage to allow for thermal expansion.

3.02 EQUIPMENT RESTRAINT AND BRACING

- A. See drawings for equipment to be restrained or braced.

3.03 MECHANICAL DUCTWORK AND PIPING; ELECTRICAL BUSWAYS, CONDUITS, AND CABLE TRAYS; AND TELECOMMUNICATION WIRES AND CABLE TRAYS

- A. Support and brace mechanical ductwork and piping; conduits and cable trays; and telecommunication wires and cable trays to resist directional forces (lateral, longitudinal and vertical).
- B. Brace duct and breeching branches with a minimum of 1 brace per branch.
- C. Provide supports and anchoring so that, upon application of seismic forces, piping remains fully connected as operable systems which will not displace sufficiently to damage adjacent or connecting equipment, or building members.
- D. Piping Connections: Provide flexible connections where pipes connect to equipment. Make the connections capable of accommodating relative differential movements between the pipe and equipment under conditions of earthquake shaking.

END OF SECTION

SECTION 22 04 00 - PLUMBING SYSTEM

PART 1 – GENERAL

1.01 Related Documents

- A. Requirements of the contract documents form a part of this section.
- B. Particular attention is directed to Section 23 00 50, General Mechanical Requirements.

1.02 Scope of Work

- A. Provide labor, material and equipment to disconnect and cap natural gas piping to the building(s).

PART 2 - PRODUCTS

2.01 Pipe and Fittings

- A. Natural Gas
 - 1. Threaded galvanized steel cap to match (e) pipe materials.
 - 2. Pipe and fittings shall be California AB 1953 compliant.
- B. All products shall be California AB 1953 compliant.

PART 3 – EXECUTION

3.01 Workmanship

- A. All work shall be performed by skilled tradesman licensed as journeyman plumbers or under their direct supervision. A licensed master plumber shall be in responsible charge of the work and for code compliance.

3.02 Provide soap test to verify no leakage.

END OF SECTION 22 04 00

SECTION 23 00 50 - GENERAL MECHANICAL REQUIREMENTS

PART 1 – GENERAL

1.01 Related Documents: Requirements of the Contract Documents, including Division 1 specifications, apply to work of this Section.

1.02 Scope of Work:

- A. Provide labor, material, equipment, and services required to furnish and install work in sections listed below.

Section 22 04 00 – Plumbing System

Section 23 00 60 - General Electrical Requirements for Mechanical Systems

Section 23 06 00 - HVAC System

- B. Intent of Specifications: In the Specifications, plans, schedules, and details, information conveyed by means of brief mention or notation which regardless of brevity, shall be binding exactly as if presented in complete sentences employing mandatory language. Work not explicitly detailed in the Specification; or Drawings, but clearly standard practice of the trade as necessary to complete the systems shall be included as though fully specified and drawn.

- C. Examination of the Site: Examine the site and premises prior to bidding to determine conditions under which the work is to be performed. No allowance will be made for extra expense incurred due to failure to examine the premises. Existing site conditions, locations of services and all requirements of the existing utilities shall be coordinated with the drawings and specifications.

1.03 Standard References and Definitions:

- A. Standard is described by reference to various associations.

<u>Abbreviation</u>	<u>Association</u>
AABC	Associated Air Balance Council
AFI	Air Filter Institute
AGA	American Gas Association
AMCA	Air Moving and Conditioning Association
ANSI	American Standards Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
AHRI	Air Conditioning, Heating, and Refrigeration Institute
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
AWWA	American Water Works Association
EPA	Environmental Protection Agency
CMC	California Mechanical Code
CPC	California Plumbing Code
NEBB	National Environmental Balancing Bureau

NEMA	National Electrical Manufacturers' Association
NFPA	National Fire Protection Assoc.
OSHA	Occupational Safety and Health Act
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
UL	Underwriters' Laboratories, Inc.

- B. Reference is identified by appropriate prefix and number only, with latest revision being applicable.

1.04 Drawings and Specifications

- A. With the exception of systems and equipment furnished by Owner, it is intended that work covered by specifications and drawings includes everything requisite and necessary to make various systems complete and operative, irrespective of whether or not every item is specifically provided. Any omission of direct reference herein to any essential item shall not excuse contractor from complying with above intent.
- B. Figured dimensions supersede scaled ones. Contractor shall take no advantage of, and shall promptly call Architects attention to any error, omission or inconsistency in specifications and drawings.
- C. Special attention is directed to requirement that equipment and materials stated in specifications and/or indicated on drawings shall be furnished, completely installed, adjusted, and left in safe and satisfactory operating condition.
- D. Materials, apparatus or equipment specified or otherwise provided for on drawings, addenda, or change order issued subsequent to award or contract, shall be same brand, type, quality and character originally specified unless otherwise provided for in addenda or change order.
- E. Layout of equipment, accessories, specialties and suspended, concealed, or exposed piping systems are diagrammatic, unless dimensioned. In preparing shop drawings, Contractor shall check project conditions before installing work. If there are any interference's or conflicts, they shall be called to attention of Architect immediately for clarifications.

1.05 Permits, Fees and Inspections:

- A. Contractor shall make all arrangements for permits and inspections with utility companies, utility districts, and Fire Marshall.
- B. Contractor shall not allow or cause any of his work to be covered up or enclosed until it has been reviewed and/or witnessed tests by Owner or Owner's representative and by government authorities having jurisdiction over this work.

1.06 Submittals

- A. Shop Drawings
 - 1. Submit product data for review in accordance with contract documents.

2. Prior to submitting product data, Contractor shall check for dimensional correctness, interference's, (fit available space), and conformance to specifications and plans. Contractor shall stamp drawings to indicate that stipulated check has been made. Identify submittal data by project name, specification section, and equipment identification number.
3. Cuts or catalogs, including descriptive literature and characteristics of equipment shall show major dimensions, capacities, curves, pressure drops, control diagram, finish, code compliance, and motor and drive data; special instructions for shop drawings may be included with the itemized specification below. Submit proof of Title 24 compliance.
4. Custom-made equipment and systems such as built-up air handling units and temperature controls and lists such as for grilles, diffusers and registers, fire dampers, etc., shall be submitted for review. Include shop drawings for each component in an assembly and wiring diagrams for all items incorporating electrical equipment.
5. Shop drawings are required for all equipment, specialties and materials used in this project including but not limited to the items in the shop drawing and vendor guide listed below.
6. Contractor agrees the Shop Drawing Submittals processed by the Architect are not change orders; that the purpose of shop drawing submittals by the Contractor is to demonstrate his understanding by indicating which equipment and material they intend to furnish and install by detailing the fabrication and installation methods they intend to use.
7. Contractor further agrees that if deviations, discrepancies or conflicts between shop drawings, submittals and the Contract Documents in the form of Design Drawings and Specifications are discovered either prior to or after shop drawings submittals are processed by the Architect, the Design Drawings and Specifications shall control and shall be followed.

B. Shop Drawing List – HVAC

1. Lists shall include all items listed and any other significant items not specifically listed.
2. Registers, grilles and diffusers

C. Record Drawings

1. Contractor shall keep on the job one complete set of the contractor working drawings on which they shall record any deviations or changes from such drawings made during construction. Record shall show changes in:
Size, type, capacity, etc. of any material, device or piece of equipment.
Location of any device or piece of equipment.
Location of any outlet or source in building service systems.
Routing of any piping, conduit, ducts, sewers, or other building services.
2. Drawings shall also record location of concealed water and electric service, water piping, sewers, wastes, vents, ducts, conduit and other piping, by indication of measured dimensions to each such line from readily identifiable and accessible walls or corners of the building. Drawings also shall show invert elevation of sewers and top of water lines.

3. Drawings shall be kept clean and undamaged, and shall not be used for any purpose other than recording deviations from working drawings and exact locations of concealed work.
4. Each will be able to install his work satisfactorily with least possible interference or delay.
5. Upon completion of work, Contractor shall obtain transparencies from Architect, at cost, and incorporate changes as noted on record set, including dimensions, and location and depth of bury of underground lines. Contractor shall sign and deliver transparencies with one set of prints to Architect. Corrections on transparencies shall be made by a professional draftsman. Items superseded during construction shall be removed and only as-built conditions shall remain on transparencies.

1.07 Conformance with Regulations

- A. Give notices and comply with laws, ordinance, rules, regulations and orders of any public authority bearing on work. If Contractor observes that contract documents are at variance with such in any respect, promptly notify Architect, in writing. Necessary changes will be adjusted by change order.

1.08 Warranty

- A. Warranty, in writing, to Owner that work herein shall be free from defects in workmanship and materials, that apparatus will develop capacities and characteristics required in drawings, and that, if any during period of one year after date of certificate of completion and acceptance of project, and such defects appear, they shall remedy them without any cost to Owner.
- B. Warranty, as stated, shall include costs of any work required to be done by other Contractor for removal, access, etc. and replacement thereof.

1.09 Substitutions

- A. Contractor is cautioned to bid materials listed in the specifications. Contractor may substitute listed material provided:
 1. Burden of proof of equivalency is on contractor and acceptance is by the Owner.
 2. Contractor is liable for project schedule.
 3. Contractor complies with contract documents.
- B. Should substitution be allowed, contractor remains liable for operation and performance of originally specified material.

1.10 Inter-Trade Coordination

- A. Mechanical Contractor shall schedule and hold a coordination meeting at the beginning of the project. Meeting may be at the job site, Contractor's office or Architect's office.

- B. As a minimum, Mechanical, Electrical, Plumbing and Fire Protection sub contractors shall be present. Architect and Mechanical Engineer shall be notified of the meeting schedule.
- C. Minutes of the meeting shall be recorded by the Mechanical Contractor and forwarded to the Architect for review.
- D. Meeting shall review:
 - 1. Voltage and phasing available at this project.
 - 2. Power requirements for each piece of equipment furnished.
 - 3. Control and starter requirements for each piece of equipment including a review of who is providing said piece of equipment.
 - 4. Location of each piece of equipment, including fans, pumps, smoke fire dampers and detectors, fire risers, fire alarm control panel.

PART 2 – PRODUCTS

2.01 Not Applicable

PART 3 – EXECUTION

- 3.01 Temporary Facilities shall be provided as stated in Division 1.
- 3.02 Inspections: Arrange with Architect and enforcing Governmental authorities for required permits and inspections. Furnish Architect with completed certificates of inspection and approval at completion. Call for inspections when they become due. Do not cover any work until accepted.
- 3.03 Damage to Other Work: Contractor shall be held responsible for damage caused by his work or through neglect of his workmen. Contractor shall do repairing of damaged work as directed by Architect; Contractor shall pay cost of repairs.
- 3.04 Supports
 - A. Supports for ductwork, pipe, conduit, ceiling grid system, etc., shall not interfere with access to valves, etc.
 - B. Install equipment, ductwork and piping so that noise and vibration will not be transmitted throughout building.
 - C. Seismic support of all mechanical equipment, ductwork, grilles and registers, etc. shall comply with 2026 edition, California Building Code, earthquake regulations, SMACNA "Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems". The Architect and structural engineer prior to installation shall review all seismic restraints selected.
- 3.05 Rubbish: Rubbish resulting from the work herein specified shall be removed from the premises by the trade at the end of each day. On completion of work, remove from the site all tools,

equipment, surplus materials, and rubbish. Pay costs for such removal and disposition and cooperate with General Contractor in final cleaning.

3.06 Hoists, Rigging, Transportation and Scaffolding

- A. Provide scaffolding, staging, cribbing, tackle, hoists and rigging necessary for placing materials and equipment. Temporary work shall be removed from premises when its use is no longer required on job.
- B. Pay costs for transportation of materials and equipment to job site and include such costs in proposal.
- C. Scaffolding and hoisting equipment shall comply with requirements of Federal, State and Local laws and codes.

3.07 Equipment Ingress: Contractor is solely responsible for purchasing equipment and materials in such knock-down condition that they will pass through building openings or such openings as may occur incidentally during building construction. Coordinate this effort with General Contractor.

3.08 Accessibility

- A. Install work so as to be readily accessible for operation, maintenance and repair; minor deviations from drawings may be made to accomplish this. Changes shall not be made without approval of the Architect.
- B. Coordinate with other contractors for location of piping, ductwork and equipment.

3.09 Protection of Building, Openings and Materials

- A. In addition to the provisions and stipulations in the General Conditions, provide various types of protection as follows:
 - 1. Protect finished floors from chips and cutting oil by the use of metal chip receiving pan and a floor cover.
 - 2. Protect equipment and finished surfaces from welding and cutting splatters with baffles and splatter blankets.
 - 3. Protect equipment and finished surfaces from paint droppings, insulation adhesive and sizing droppings, etc., by use of drop cloths.
- B. Duct, pipe and construction openings and excavations required for mechanical work shall be covered when work is not in progress, as follows:
 - 1. Cover duct openings with canvas or plastic.
 - 2. Cap pipe openings with fittings or plugs.
 - 3. Cover wall and ceiling openings with plywood, or canvas covered framing.
 - 4. Cover floor openings and excavations with structural material of adequate strength to support traffic.
 - 5. Provide guards and rails at pits and openings as required by governing authority.

- C. Equipment and material shall be covered and protected and kept clean during storage and shall not be exposed to the weather. Equipment such as chillers, boilers, fans, etc., shall be warehoused or stored indoors.
- 3.10 Cleaning-Lubricating: Clean systems internally before placing in operation. Clean externally and restore damaged surfaces. Lubricate equipment per manufacturer's instructions. Where lubricating points are not easily accessible, provide extensions.
- 3.11 Maintenance Prior to Final Acceptance
- A. Contractor shall be responsible for maintenance of equipment and systems installed until final acceptance by Owner, and shall take such measures as necessary to ensure adequate protection of equipment and materials during delivery, storage, installation, start-up, temporary operation, and shut-down.
 - B. Air handling systems used prior to final acceptance shall have specified filters installed.
 - C. A clean set of filters shall be installed at time of job acceptance.
- 3.12 Painting: Painting of mechanical items unless otherwise specified, shall be done under Division 9. Mechanical Contractor shall cooperate with and coordinate this work.
- 3.13 Equipment Bases and Supports
- A. Equipment shall have driver and driven unit mounted on common bases.
 - B. Provide anchor bolts, structural supports, platforms, braces, tie rods, etc. required to support or hang piping and equipment.
 - C. Provide structural channel and/or angle iron framing around building openings required which are not shown on architectural and structural drawings and, therefore, are not "framed in" by General Contractor.
- 3.14 Machinery Guards
- A. Provide barriers as required by code, and as specified, for moving parts of machinery exposed to personnel.
 - B. Guard exposed moving parts, such as belts and couplings, with expanded metal or solid 16 GA. sheet metal guards with edges rounded, and 1-1/4 x 1-1/4 x 1/8 inch angle iron frames, properly supported. Bolt guards in place and fabricate to permit easy removal.
 - C. Provide 2 inch openings, for insertion of tachometer at ends of motor and equipment shafts.
- 3.15 Manufacturer's Nameplates
- A. Each unit of equipment shall be identified by permanently attached nameplate of corrosion resistant metal. Plates shall bear following information:
 - 1. Manufacturers name

2. Serial and model numbers
 3. Rated capacity
 4. Temperature, pressure or other limitations.
- B. Equipment and Systems Identification
- C. Identify each unit as to function and system number as directed by the Architect and as listed.
- | | | |
|----|---------------------------------|----------------------------|
| D. | <u>Item</u> | <u>Type Identification</u> |
| | Switches, pilot lights (Remote) | Label plastic laminate |
| | Pipe lines | Stencil, labels |
- E. Service Abbreviations
- | | |
|-----------------------------|--------|
| Chilled Water Supply/Return | CHWS/R |
| Domestic Cold Water | DCW |
| Domestic Hot Water | DHW |
| Domestic Hot Water Return | DHWR |
| Fire Line | FL |
| Non Potable Water | NPW |

3.16 Testing

- A. Test all piping, new and existing. Report failures of existing piping to the Owner. Test piping and equipment as specified under IPC, IMC or other sections. Furnish labor, materials, instruments, power, etc. required for testing, unless otherwise specified.
- B. Perform tests as required by parties having legal jurisdiction. Notify these parties a minimum of three days before testing.
- C. In general, pressure tests shall be applied to piping only, before connection of equipment and appliances. In no case shall piping or appliances be subject to pressure exceeding their rating. Defective work shall be promptly repaired or replaced, and test shall be repeated until the particular system and component parts thereof receive approval of Architect.
- D. Damages resulting from tests shall be repaired, or damaged materials replaced, to satisfaction of the Architect and at no cost to Owner.
- E. If Contractor does not promptly repair damages and defects, Owner reserves the right to remedy such damages and defects at Contractor's expense.

3.17 Requirement for Final Inspection

- A. Following items must be completed prior to final inspections. No final payment will be made and the mechanical work will not be accepted until all items are completed.
 1. Thoroughly clean parts of the apparatus and equipment. Exposed parts, which are to be painted, shall be thoroughly cleaned of cement, plaster and other

- materials and all oil and grease shall be removed. Such surfaces shall be carefully wiped and all cracks and corners scraped out.
2. Exposed metal work shall be carefully brushed down with steel brush to remove rust and other spots and left smooth and clean.
 3. Provide clean set of specified filters in all air circulating equipment.
 4. Test and balance work shall be complete and reports received and reviewed by Architect.

3.18 Operating Instruction and Service Manual

- A. Following items together with any other pertinent data shall be included. List is not necessarily complete and shall be considered minimum.
 1. Manufacturer's name, nearest representative and model and serial numbers of component of system.
 2. Operating instruction, start-up and shut down procedure.
 3. Maintenance and lubrication instructions.
 4. Parts list.
 5. Manufacturer's literature describing each piece of equipment.
 6. One stamped copy of each shop drawing submitted under item list.
 7. Part numbers of all replaceable items.
 8. List of belt sizes, types and lengths.
 9. Control diagram and operation sequence together with labeling of control piping and instruments to match diagram.
- B. After review of a copy of the manual by the Architect, two (2) copies of each manual shall be furnished to the Owner.
- C. The operating instructions and service manual shall be considered a part of the final inspection and shall be submitted for review at least 30 days in advance of request for final inspection.

END OF SECTION 23 00 50

SECTION 23 00 50 - GENERAL MECHANICAL REQUIREMENTS

PART 1 – GENERAL

1.01 Related Documents: Requirements of the Contract Documents, including Division 1 specifications, apply to work of this Section.

1.02 Scope of Work:

- A. Provide labor, material, equipment, and services required to furnish and install work in sections listed below.

Section 22 04 00 – Plumbing System

Section 23 00 60 - General Electrical Requirements for Mechanical Systems

Section 23 06 00 - HVAC System

- B. Intent of Specifications: In the Specifications, plans, schedules, and details, information conveyed by means of brief mention or notation which regardless of brevity, shall be binding exactly as if presented in complete sentences employing mandatory language. Work not explicitly detailed in the Specification; or Drawings, but clearly standard practice of the trade as necessary to complete the systems shall be included as though fully specified and drawn.

- C. Examination of the Site: Examine the site and premises prior to bidding to determine conditions under which the work is to be performed. No allowance will be made for extra expense incurred due to failure to examine the premises. Existing site conditions, locations of services and all requirements of the existing utilities shall be coordinated with the drawings and specifications.

1.03 Standard References and Definitions:

- A. Standard is described by reference to various associations.

<u>Abbreviation</u>	<u>Association</u>
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AFI	Air Filter Institute
AGA	American Gas Association
AMCA	Air Moving and Conditioning Association
ANSI	American Standards Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
AHRI	Air Conditioning, Heating, and Refrigeration Institute
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
AWWA	American Water Works Association
EPA	Environmental Protection Agency
CMC	California Mechanical Code
CPC	California Plumbing Code
NEBB	National Environmental Balancing Bureau

NEMA	National Electrical Manufacturers' Association
NFPA	National Fire Protection Assoc.
OSHA	Occupational Safety and Health Act
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
UL	Underwriters' Laboratories, Inc.

- B. Reference is identified by appropriate prefix and number only, with latest revision being applicable.

1.04 Drawings and Specifications

- A. With the exception of systems and equipment furnished by Owner, it is intended that work covered by specifications and drawings includes everything requisite and necessary to make various systems complete and operative, irrespective of whether or not every item is specifically provided. Any omission of direct reference herein to any essential item shall not excuse contractor from complying with above intent.
- B. Figured dimensions supersede scaled ones. Contractor shall take no advantage of, and shall promptly call Architects attention to any error, omission or inconsistency in specifications and drawings.
- C. Special attention is directed to requirement that equipment and materials stated in specifications and/or indicated on drawings shall be furnished, completely installed, adjusted, and left in safe and satisfactory operating condition.
- D. Materials, apparatus or equipment specified or otherwise provided for on drawings, addenda, or change order issued subsequent to award or contract, shall be same brand, type, quality and character originally specified unless otherwise provided for in addenda or change order.
- E. Layout of equipment, accessories, specialties and suspended, concealed, or exposed piping systems are diagrammatic, unless dimensioned. In preparing shop drawings, Contractor shall check project conditions before installing work. If there are any interference's or conflicts, they shall be called to attention of Architect immediately for clarifications.

1.05 Permits, Fees and Inspections:

- A. Contractor shall make all arrangements for permits and inspections with utility companies, utility districts, and Fire Marshall.
- B. Contractor shall not allow or cause any of his work to be covered up or enclosed until it has been reviewed and/or witnessed tests by Owner or Owner's representative and by government authorities having jurisdiction over this work.

1.06 Submittals

- A. Shop Drawings
 - 1. Submit product data for review in accordance with contract documents.

2. Prior to submitting product data, Contractor shall check for dimensional correctness, interference's, (fit available space), and conformance to specifications and plans. Contractor shall stamp drawings to indicate that stipulated check has been made. Identify submittal data by project name, specification section, and equipment identification number.
3. Cuts or catalogs, including descriptive literature and characteristics of equipment shall show major dimensions, capacities, curves, pressure drops, control diagram, finish, code compliance, and motor and drive data; special instructions for shop drawings may be included with the itemized specification below. Submit proof of Title 24 compliance.
4. Custom-made equipment and systems such as built-up air handling units and temperature controls and lists such as for grilles, diffusers and registers, fire dampers, etc., shall be submitted for review. Include shop drawings for each component in an assembly and wiring diagrams for all items incorporating electrical equipment.
5. Shop drawings are required for all equipment, specialties and materials used in this project including but not limited to the items in the shop drawing and vendor guide listed below.
6. Contractor agrees the Shop Drawing Submittals processed by the Architect are not change orders; that the purpose of shop drawing submittals by the Contractor is to demonstrate his understanding by indicating which equipment and material they intend to furnish and install by detailing the fabrication and installation methods they intend to use.
7. Contractor further agrees that if deviations, discrepancies or conflicts between shop drawings, submittals and the Contract Documents in the form of Design Drawings and Specifications are discovered either prior to or after shop drawings submittals are processed by the Architect, the Design Drawings and Specifications shall control and shall be followed.

B. Shop Drawing List – HVAC

1. Lists shall include all items listed and any other significant items not specifically listed.
2. Registers, grilles and diffusers

C. Record Drawings

1. Contractor shall keep on the job one complete set of the contractor working drawings on which they shall record any deviations or changes from such drawings made during construction. Record shall show changes in:
Size, type, capacity, etc. of any material, device or piece of equipment.
Location of any device or piece of equipment.
Location of any outlet or source in building service systems.
Routing of any piping, conduit, ducts, sewers, or other building services.
2. Drawings shall also record location of concealed water and electric service, water piping, sewers, wastes, vents, ducts, conduit and other piping, by indication of measured dimensions to each such line from readily identifiable and accessible walls or corners of the building. Drawings also shall show invert elevation of sewers and top of water lines.

3. Drawings shall be kept clean and undamaged, and shall not be used for any purpose other than recording deviations from working drawings and exact locations of concealed work.
4. Each will be able to install his work satisfactorily with least possible interference or delay.
5. Upon completion of work, Contractor shall obtain transparencies from Architect, at cost, and incorporate changes as noted on record set, including dimensions, and location and depth of bury of underground lines. Contractor shall sign and deliver transparencies with one set of prints to Architect. Corrections on transparencies shall be made by a professional draftsman. Items superseded during construction shall be removed and only as-built conditions shall remain on transparencies.

1.07 Conformance with Regulations

- A. Give notices and comply with laws, ordinance, rules, regulations and orders of any public authority bearing on work. If Contractor observes that contract documents are at variance with such in any respect, promptly notify Architect, in writing. Necessary changes will be adjusted by change order.

1.08 Warranty

- A. Warranty, in writing, to Owner that work herein shall be free from defects in workmanship and materials, that apparatus will develop capacities and characteristics required in drawings, and that, if any during period of one year after date of certificate of completion and acceptance of project, and such defects appear, they shall remedy them without any cost to Owner.
- B. Warranty, as stated, shall include costs of any work required to be done by other Contractor for removal, access, etc. and replacement thereof.

1.09 Substitutions

- A. Contractor is cautioned to bid materials listed in the specifications. Contractor may substitute listed material provided:
 1. Burden of proof of equivalency is on contractor and acceptance is by the Owner.
 2. Contractor is liable for project schedule.
 3. Contractor complies with contract documents.
- B. Should substitution be allowed, contractor remains liable for operation and performance of originally specified material.

1.10 Inter-Trade Coordination

- A. Mechanical Contractor shall schedule and hold a coordination meeting at the beginning of the project. Meeting may be at the job site, Contractor's office or Architect's office.

- B. As a minimum, Mechanical, Electrical, Plumbing and Fire Protection sub contractors shall be present. Architect and Mechanical Engineer shall be notified of the meeting schedule.
- C. Minutes of the meeting shall be recorded by the Mechanical Contractor and forwarded to the Architect for review.
- D. Meeting shall review:
 - 1. Voltage and phasing available at this project.
 - 2. Power requirements for each piece of equipment furnished.
 - 3. Control and starter requirements for each piece of equipment including a review of who is providing said piece of equipment.
 - 4. Location of each piece of equipment, including fans, pumps, smoke fire dampers and detectors, fire risers, fire alarm control panel.

PART 2 – PRODUCTS

2.01 Not Applicable

PART 3 – EXECUTION

- 3.01 Temporary Facilities shall be provided as stated in Division 1.
- 3.02 Inspections: Arrange with Architect and enforcing Governmental authorities for required permits and inspections. Furnish Architect with completed certificates of inspection and approval at completion. Call for inspections when they become due. Do not cover any work until accepted.
- 3.03 Damage to Other Work: Contractor shall be held responsible for damage caused by his work or through neglect of his workmen. Contractor shall do repairing of damaged work as directed by Architect; Contractor shall pay cost of repairs.
- 3.04 Supports
 - A. Supports for ductwork, pipe, conduit, ceiling grid system, etc., shall not interfere with access to valves, etc.
 - B. Install equipment, ductwork and piping so that noise and vibration will not be transmitted throughout building.
 - C. Seismic support of all mechanical equipment, ductwork, grilles and registers, etc. shall comply with 2026 edition, California Building Code, earthquake regulations, SMACNA "Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems". The Architect and structural engineer prior to installation shall review all seismic restraints selected.
- 3.05 Rubbish: Rubbish resulting from the work herein specified shall be removed from the premises by the trade at the end of each day. On completion of work, remove from the site all tools,

equipment, surplus materials, and rubbish. Pay costs for such removal and disposition and cooperate with General Contractor in final cleaning.

3.06 Hoists, Rigging, Transportation and Scaffolding

- A. Provide scaffolding, staging, cribbing, tackle, hoists and rigging necessary for placing materials and equipment. Temporary work shall be removed from premises when its use is no longer required on job.
- B. Pay costs for transportation of materials and equipment to job site and include such costs in proposal.
- C. Scaffolding and hoisting equipment shall comply with requirements of Federal, State and Local laws and codes.

3.07 Equipment Ingress: Contractor is solely responsible for purchasing equipment and materials in such knock-down condition that they will pass through building openings or such openings as may occur incidentally during building construction. Coordinate this effort with General Contractor.

3.08 Accessibility

- A. Install work so as to be readily accessible for operation, maintenance and repair; minor deviations from drawings may be made to accomplish this. Changes shall not be made without approval of the Architect.
- B. Coordinate with other contractors for location of piping, ductwork and equipment.

3.09 Protection of Building, Openings and Materials

- A. In addition to the provisions and stipulations in the General Conditions, provide various types of protection as follows:
 - 1. Protect finished floors from chips and cutting oil by the use of metal chip receiving pan and a floor cover.
 - 2. Protect equipment and finished surfaces from welding and cutting splatters with baffles and splatter blankets.
 - 3. Protect equipment and finished surfaces from paint droppings, insulation adhesive and sizing droppings, etc., by use of drop cloths.
- B. Duct, pipe and construction openings and excavations required for mechanical work shall be covered when work is not in progress, as follows:
 - 1. Cover duct openings with canvas or plastic.
 - 2. Cap pipe openings with fittings or plugs.
 - 3. Cover wall and ceiling openings with plywood, or canvas covered framing.
 - 4. Cover floor openings and excavations with structural material of adequate strength to support traffic.
 - 5. Provide guards and rails at pits and openings as required by governing authority.

- C. Equipment and material shall be covered and protected and kept clean during storage and shall not be exposed to the weather. Equipment such as chillers, boilers, fans, etc., shall be warehoused or stored indoors.
- 3.10 Cleaning-Lubricating: Clean systems internally before placing in operation. Clean externally and restore damaged surfaces. Lubricate equipment per manufacturer's instructions. Where lubricating points are not easily accessible, provide extensions.
- 3.11 Maintenance Prior to Final Acceptance
- A. Contractor shall be responsible for maintenance of equipment and systems installed until final acceptance by Owner, and shall take such measures as necessary to ensure adequate protection of equipment and materials during delivery, storage, installation, start-up, temporary operation, and shut-down.
 - B. Air handling systems used prior to final acceptance shall have specified filters installed.
 - C. A clean set of filters shall be installed at time of job acceptance.
- 3.12 Painting: Painting of mechanical items unless otherwise specified, shall be done under Division 9. Mechanical Contractor shall cooperate with and coordinate this work.
- 3.13 Equipment Bases and Supports
- A. Equipment shall have driver and driven unit mounted on common bases.
 - B. Provide anchor bolts, structural supports, platforms, braces, tie rods, etc. required to support or hang piping and equipment.
 - C. Provide structural channel and/or angle iron framing around building openings required which are not shown on architectural and structural drawings and, therefore, are not "framed in" by General Contractor.
- 3.14 Machinery Guards
- A. Provide barriers as required by code, and as specified, for moving parts of machinery exposed to personnel.
 - B. Guard exposed moving parts, such as belts and couplings, with expanded metal or solid 16 GA. sheet metal guards with edges rounded, and 1-1/4 x 1-1/4 x 1/8 inch angle iron frames, properly supported. Bolt guards in place and fabricate to permit easy removal.
 - C. Provide 2 inch openings, for insertion of tachometer at ends of motor and equipment shafts.
- 3.15 Manufacturer's Nameplates
- A. Each unit of equipment shall be identified by permanently attached nameplate of corrosion resistant metal. Plates shall bear following information:
 - 1. Manufacturers name

2. Serial and model numbers
 3. Rated capacity
 4. Temperature, pressure or other limitations.
- B. Equipment and Systems Identification
- C. Identify each unit as to function and system number as directed by the Architect and as listed.
- | | | |
|----|---------------------------------|----------------------------|
| D. | <u>Item</u> | <u>Type Identification</u> |
| | Switches, pilot lights (Remote) | Label plastic laminate |
| | Pipe lines | Stencil, labels |
- E. Service Abbreviations
- | | |
|-----------------------------|--------|
| Chilled Water Supply/Return | CHWS/R |
| Domestic Cold Water | DCW |
| Domestic Hot Water | DHW |
| Domestic Hot Water Return | DHWR |
| Fire Line | FL |
| Non Potable Water | NPW |

3.16 Testing

- A. Test all piping, new and existing. Report failures of existing piping to the Owner. Test piping and equipment as specified under IPC, IMC or other sections. Furnish labor, materials, instruments, power, etc. required for testing, unless otherwise specified.
- B. Perform tests as required by parties having legal jurisdiction. Notify these parties a minimum of three days before testing.
- C. In general, pressure tests shall be applied to piping only, before connection of equipment and appliances. In no case shall piping or appliances be subject to pressure exceeding their rating. Defective work shall be promptly repaired or replaced, and test shall be repeated until the particular system and component parts thereof receive approval of Architect.
- D. Damages resulting from tests shall be repaired, or damaged materials replaced, to satisfaction of the Architect and at no cost to Owner.
- E. If Contractor does not promptly repair damages and defects, Owner reserves the right to remedy such damages and defects at Contractor's expense.

3.17 Requirement for Final Inspection

- A. Following items must be completed prior to final inspections. No final payment will be made and the mechanical work will not be accepted until all items are completed.
 1. Thoroughly clean parts of the apparatus and equipment. Exposed parts, which are to be painted, shall be thoroughly cleaned of cement, plaster and other

- materials and all oil and grease shall be removed. Such surfaces shall be carefully wiped and all cracks and corners scraped out.
2. Exposed metal work shall be carefully brushed down with steel brush to remove rust and other spots and left smooth and clean.
 3. Provide clean set of specified filters in all air circulating equipment.
 4. Test and balance work shall be complete and reports received and reviewed by Architect.

3.18 Operating Instruction and Service Manual

- A. Following items together with any other pertinent data shall be included. List is not necessarily complete and shall be considered minimum.
 1. Manufacturer's name, nearest representative and model and serial numbers of component of system.
 2. Operating instruction, start-up and shut down procedure.
 3. Maintenance and lubrication instructions.
 4. Parts list.
 5. Manufacturer's literature describing each piece of equipment.
 6. One stamped copy of each shop drawing submitted under item list.
 7. Part numbers of all replaceable items.
 8. List of belt sizes, types and lengths.
 9. Control diagram and operation sequence together with labeling of control piping and instruments to match diagram.
- B. After review of a copy of the manual by the Architect, two (2) copies of each manual shall be furnished to the Owner.
- C. The operating instructions and service manual shall be considered a part of the final inspection and shall be submitted for review at least 30 days in advance of request for final inspection.

END OF SECTION 23 00 50

SECTION 23 00 60 - GENERAL ELECTRICAL REQUIREMENTS FOR MECHANICAL SYSTEMS

PART 1 - GENERAL

1.01 Related Documents

- A. Requirements of the Contract Documents, including Division 1 Specifications, apply to work of this section.

1.02 General

- A. Provide design, materials and installation for electric motors, control panels, certain control and safety devices for proper operation of electrical systems associated with mechanical equipment specified in Divisions 22 and 23.

1.03 Electrical Requirements for Mechanical Equipment

- A. Mechanical equipment with factory assembled and/or attached with electric equipment shall be U.L. listed and shall meet the latest edition of the National Electrical Code and California Title 24.

1.04 Coordination of Work

- A. Verify Electrical Contractor is furnishing and installing the following for all mechanical/plumbing equipment: Power line voltage conduit and wiring, manual line voltage controls (disconnect switches, etc.).
- B. The Mechanical Contractor shall furnish Automatic line voltage controls and magnetic starters unless otherwise specifically noted on the plans.
- C. All control wiring for mechanical/plumbing equipment shall be installed in conduit.
- D. Furnishing of, installation of, and connection of all control wiring and conduit for controls shall be by the mechanical/plumbing contractor.
- E. In general, power service wiring will be furnished and installed and connected to mechanical equipment by the Electrical Contractor under Division 16.
- F. Summary of motors, electrical equipment, and controls is listed on drawings. It is not intended to be all-inclusive in defining Contractor's work.

PART 2 – PRODUCTS

2.01 Not Applicable.

PART 3 – EXECUTION

3.01 Not Applicable.

END OF SECTION 23 00 60

SECTION 23 06 00 - HVAC SYSTEM

PART 1 - GENERAL

1.01 Related Documents

- A. Requirements of the Contract Documents, including Division 1 specifications and Section 23 00 50 General Mechanical Requirements, apply to work of the Section.

1.02 Scope of Work

- A. Provide labor, material, equipment accessories, services, and tests necessary to completely execute all heating equipment work, which shall include, but not necessarily be limited to, the following:
 - 1. Ductwork
 - 2. Duct Insulation
 - 3. Sheetmetal Accessories
 - 4. Air Handlers
 - 5. Condensers
 - 6. Mixing Boxes

PART 2 - PRODUCTS

2.01 Ductwork

- A. Ductwork and sheetmetal accessories shall comply with NFPA, SMACNA and ASHRAE standards.
- B. Galvanized steel-galvanized steel shall meet ASTM A525-71 standards-plain hot dipped with 1.25 oz. of zinc per square foot commercial class. Gauges of metal and reinforcement shall be in accordance with SMACNA for 2" W.C. positive or negative pressure.
- C. Ductwork Sealants
 - 1. Hardcast CCWI-181 U.L. listed. Apply per manufacturer's recommendations.
 - 2. Watertight construction where noted with edges bent ½ in. for watertight seal. Longitudinal seam sealant shall be 3M Brand No. 800; Alcoa, Aluminastic Type C, or solder; Stiffeners shall be plug or spot welded. Transverse joints shall be bolted companion angles with ¼ in. cadmium-plated bolts with 6 in. minimum on centers and gasket.

- 2.02 Duct Insulation: Metal supply and return air duct systems in unconditioned space shall be insulated with 1" thick faced fiberglass insulation. Acceptable Manufactures: Owens/Corning All Service Faced Duct Wrap. Commercial Grade A-3 or equivalent from Johns-Manville, Armstrong, Knauf.

- 2.03 Volume Damper: Dampers shall be placed where shown on drawings and in branch take-off from main ducts to permit control of air flow into branches. Damper blades shall be of stamped design, made from 16-gauge galvanized steel. Positioning device for dampers shall be locking lever and quadrant. Lever shall be parallel to blade, locked to quadrant with thumbscrew or wing nut.
- 2.04 Grilles & Diffusers: Acceptable Manufacturers: Krueger, Titus, Carnes, or Nailor. Diffusers, grilles and accessories shall be constructed of steel unless otherwise noted. Finish shall be per Contracting Officer. Diffusers, grilles, are to be with volume damper unless marked otherwise on drawings. Provide margins, leveling clips, plaster ground, etc. as required for the particular ceiling system in which the diffuser or grille is installed.

PART 3 - EXECUTION

- 3.01 Equipment shall be installed in accordance with manufacturer's recommendations.
- 3.02 Test and Balance: Due to the nature of this project, the Test and Balance activity is unique. After the demolition and the new ductwork is installed, the Contractor shall make necessary field tests and calculations to estimate/establish the correct fan RPM and motor horse power. Re-sheaving is expected at each fan. Motor sizes are not expected to increase. If any are found to be required, notify the Owner.
- A. Testing shall be done by an independent contractor who specializes in testing and balancing air handling and hydronic systems, in accordance with AABC or NEBB standards.
 - B. Upon completion of tests, Contractor shall compile the test information, and submit (4) copies of such to Mechanical Contractor to forward to Engineer for evaluation. Final report shall carry the Engineer's seal under whose direct supervision the work is done.
 - C. The report shall include a summary sheet which shall record devices, equipment and systems that cannot be adjusted to design requirements. The record shall include the extent of the variations from design conditions and the balance engineer's opinion as to cause of the variation.
 - D. A record of deviations in excess of the tolerances for the following shall be included.

Motor Loads (Amps)	+5% of name plate
Motor Voltages at	+/- 10% (Volt)
Phase Voltage Diff.	+/- 3% (Volt)
 - E. Contractor shall include in his report a list of test equipment used stating make, model, and latest calibration date.
 - F. Air Systems and Air Distribution Balance Test Procedure.

1. Test and adjust system to design CFM supply, return, outside air, and exhaust air.
2. Inspect the condition of heating and cooling coils prior to balancing to establish that finned surfaces are clean and not damaged.
3. Adjust zones to proper design CFM supply and return.
4. Test and adjust each diffuser, grille, and register to within 10% of design requirements. Adjust these devices to minimize drafts in all areas and to provide required air pattern.

G. Test Report Data

1. Air Distribution
 - a. Design conditions-CFM, static pressure, motor HP, fan speed, mixed air, discharge and return air temperature.
 - b. Installed equipment-mfg., model, motor HP, electrical data, heater ratings.
 - c. Field Test-fan speed, running amperes, voltage, brake horsepower; total CFM, total and external static pressure; mixed air, discharge air and return air, W.B. and D.B. temperature; check electrical interlocks required; read and record static pressure in the mixed air plenum for 100% return air and 25%, 50%, 75% and 100% outside air. Variation shall not exceed 10%.
 - d. Grilles, Diffusers, Registers: test and record the following for each terminal device-identify as to room locations; mfg., type, and model no.; outlet size, core area or neck area; design outlet discharge velocity and test velocity; design CFM and test CFM.

- H. Work shall be done under direct supervision of qualified air conditioning and heating engineer.

END OF SECTION 23 06 00

SECTION 23 06 00 - HVAC SYSTEM

PART 1 - GENERAL

1.01 Related Documents

- A. Requirements of the Contract Documents, including Division 1 specifications and Section 23 00 50 General Mechanical Requirements, apply to work of the Section.

1.02 Scope of Work

- A. Provide labor, material, equipment accessories, services, and tests necessary to completely execute all heating equipment work, which shall include, but not necessarily be limited to, the following:
 - 1. Ductwork
 - 2. Duct Insulation
 - 3. Sheetmetal Accessories
 - 4. Air Handlers
 - 5. Condensers
 - 6. Mixing Boxes

PART 2 - PRODUCTS

2.01 Ductwork

- A. Ductwork and sheetmetal accessories shall comply with NFPA, SMACNA and ASHRAE standards.
- B. Galvanized steel-galvanized steel shall meet ASTM A525-71 standards-plain hot dipped with 1.25 oz. of zinc per square foot commercial class. Gauges of metal and reinforcement shall be in accordance with SMACNA for 2" W.C. positive or negative pressure.
- C. Ductwork Sealants
 - 1. Hardcast CCWI-181 U.L. listed. Apply per manufacturer's recommendations.
 - 2. Watertight construction where noted with edges bent ½ in. for watertight seal. Longitudinal seam sealant shall be 3M Brand No. 800; Alcoa, Aluminastic Type C, or solder; Stiffeners shall be plug or spot welded. Transverse joints shall be bolted companion angles with ¼ in. cadmium-plated bolts with 6 in. minimum on centers and gasket.

- 2.02 Duct Insulation: Metal supply and return air duct systems in unconditioned space shall be insulated with 1" thick faced fiberglass insulation. Acceptable Manufactures: Owens/Corning All Service Faced Duct Wrap. Commercial Grade A-3 or equivalent from Johns-Manville, Armstrong, Knauf.

- 2.03 Volume Damper: Dampers shall be placed where shown on drawings and in branch take-off from main ducts to permit control of air flow into branches. Damper blades shall be of stamped design, made from 16-gauge galvanized steel. Positioning device for dampers shall be locking lever and quadrant. Lever shall be parallel to blade, locked to quadrant with thumbscrew or wing nut.
- 2.04 Grilles & Diffusers: Acceptable Manufacturers: Krueger, Titus, Carnes, or Nailor. Diffusers, grilles and accessories shall be constructed of steel unless otherwise noted. Finish shall be per Contracting Officer. Diffusers, grilles, are to be with volume damper unless marked otherwise on drawings. Provide margins, leveling clips, plaster ground, etc. as required for the particular ceiling system in which the diffuser or grille is installed.

2.05 E

PART 3 - EXECUTION

- 3.01 Equipment shall be installed in accordance with manufacturer's recommendations.
- 3.02 Test and Balance: Due to the nature of this project, the Test and Balance activity is unique. After the demolition and the new ductwork is installed, the Contractor shall make necessary field tests and calculations to estimate/establish the correct fan RPM and motor horse power. Re-sheaving is expected at each fan. Motor sizes are not expected to increase. If any are found to be required, notify the Owner.
- A. Testing shall be done by an independent contractor who specializes in testing and balancing air handling and hydronic systems, in accordance with AABC or NEBB standards.
 - B. Upon completion of tests, Contractor shall compile the test information, and submit (4) copies of such to Mechanical Contractor to forward to Engineer for evaluation. Final report shall carry the Engineer's seal under whose direct supervision the work is done.
 - C. The report shall include a summary sheet which shall record devices, equipment and systems that cannot be adjusted to design requirements. The record shall include the extent of the variations from design conditions and the balance engineer's opinion as to cause of the variation.
 - D. A record of deviations in excess of the tolerances for the following shall be included.

Motor Loads (Amps)	+5% of name plate
Motor Voltages at	+/- 10% (Volt)
Phase Voltage Diff.	+/- 3% (Volt)
 - E. Contractor shall include in his report a list of test equipment used stating make, model, and latest calibration date.
 - F. Air Systems and Air Distribution Balance Test Procedure.

1. Test and adjust system to design CFM supply, return, outside air, and exhaust air.
2. Inspect the condition of heating and cooling coils prior to balancing to establish that finned surfaces are clean and not damaged.
3. Adjust zones to proper design CFM supply and return.
4. Test and adjust each diffuser, grille, and register to within 10% of design requirements. Adjust these devices to minimize drafts in all areas and to provide required air pattern.

G. Test Report Data

1. Air Distribution
 - a. Design conditions-CFM, static pressure, motor HP, fan speed, mixed air, discharge and return air temperature.
 - b. Installed equipment-mfg., model, motor HP, electrical data, heater ratings.
 - c. Field Test-fan speed, running amperes, voltage, brake horsepower; total CFM, total and external static pressure; mixed air, discharge air and return air, W.B. and D.B. temperature; check electrical interlocks required; read and record static pressure in the mixed air plenum for 100% return air and 25%, 50%, 75% and 100% outside air. Variation shall not exceed 10%.
 - d. Grilles, Diffusers, Registers: test and record the following for each terminal device-identify as to room locations; mfg., type, and model no.; outlet size, core area or neck area; design outlet discharge velocity and test velocity; design CFM and test CFM.

- H. Work shall be done under direct supervision of qualified air conditioning and heating engineer.

END OF SECTION 23 06 00

PART 1 - GENERAL**1.01 SUMMARY**

- A. 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. Excavation.
8. Rough-in.
9. Electrical installation.
10. Cutting, patching, painting and sealing.
11. Field quality control.
12. Project closeout.

- B. Related work:

1. General and supplementary conditions: Drawings and general provisions of Contract and Division 01 of the Specifications, apply to all Division 26 Sections.
2. Earthwork: Include trenching, backfilling, boring and soil compaction as required for the installation of underground conduit, in-grade pull boxes, vaults, etc. Refer to Division 02, Existing Conditions and Division 31 Earthwork.
3. Concrete work: Include forming, steel bar reinforcing, cast-in-place concrete, finishing and grouting as required for underground conduit encasement, light pole foundations, pull box slabs, vaults, housekeeping pads, etc. Refer to Division 03, Concrete.
4. Miscellaneous metal work: Include fittings, brackets, backing, supports, rods, welding and pipe as required for support and bracing of raceways, lighting fixtures, panelboards, distribution boards, switchboards, motor control centers, etc. Refer to Division 05, Metals.
5. Miscellaneous lumber and framing work: Include wood grounds, nailers, blocking, fasteners, and anchorage for support of electrical materials and equipment. Refer to Division 06, Wood, Plastics, and Composites.
6. 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. Refer to Division 07, Thermal and Moisture Protection.
7. Access panels and doors: Required in walls, ceilings, and floors to provide access to electrical devices and equipment. Refer to Division 08, Openings, Division 05, Metals.
8. 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. Refer to Division 09, Finishes.
9. Lighting fixture supports: Provide slack fixture support wire for lighting fixtures installed in acoustical tile or lay-in suspended ceilings. Refer to Division 09, Acoustical Ceilings.

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 Drawings and Specifications. 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 Code of Regulations (CCR) Title 24, California Building Standards Code Part 2, Basic Building Regulations and Part 3, California Electrical Code (CEC), 2013 edition.
 - 2. California Building Code (CBC), 2013 edition.
 - 3. California Fire Code (CFC), 2013 edition.
 - 4. California Mechanical Code (CMC), 2013 edition.
 - 5. California Plumbing Code (CPC), 2013 edition.
- 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
- E. All base material shall be ASTM and/or ANSI standards.
- F. All electrical apparatus furnished under this Section shall conform to NEMA standards and the NEC and bear the UL label where such label is applicable.
- G. Certify that each welder performing work has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone re-certification.
- H. All materials, equipment and parts comprising the units specified in these Sections shall be new and unused, and of current manufacturer.
- I. Only products and applications listed in these Sections may be used on the project unless otherwise submitted.

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.
 - 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 District or their authorized representative.

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 1.
- 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 shown 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, wall and ceiling mounted electrical equipment so that it shall remain attached to the mounting surface after experiencing dead, live, wind and earthquake loads. Calculations shall be performed in accordance with the current California Building Code, Section 1604 "General Design Requirements" and reference document American Society of Civil Engineers Standard ASCE7-05 Minimum Design Loads for Buildings and Other Structures, Chapter 13, "Seismic Design Requirements for Non-Structural Components". Calculations shall be prepared and signed by a California Registered Structural Engineer.
- 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. 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, are 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 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 his substitution on him, his 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.

B. Job conditions:

1. Examination of site: The Contractor shall visit the 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 site and to notify the Engineer of any discrepancies between Drawings and Specifications and actual 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 shown 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 District'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 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 either Autocad Release 2008 file format.
3. Record drawing submissions shall be provided to the Engineer to review upon the completion of the following phases of work:
 - a. All underground installation.
 - b. Building electrical rough-in.
 - c. Final electrical installation.
4. Include in the record drawing submission the following shop drawing submission with all updated installation information:
 - a. Fire alarm system.
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. Two sets of full size prints.
 - b. Four sets of half size prints.
 - c. One set of full size reproduces.
 - d. Autocad files of drawings.

- B. Panel schedules: Typewritten panel schedules shall be provided for panelboards indicating the loads served and the correct branch circuit number. Schedules shall be prepared on forms provided by the manufacturer and inserted in the pocket of the inner door of each panelboard. See Section 26 47 00: Panelboards for requirements.

1.07 OPERATION AND MAINTENANCE MANUALS

- A. Prior to project closeout furnish to the District, 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 16. 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 Used

PART 3 - EXECUTION

BASIC ELECTRICAL REQUIREMENTS

3.01 EXCAVATION

- A. General: Cutting and digging shall be under the direct supervision of the General Contractor, and included as necessary for the Work of this Section.
- B. Excavation for underground vaults and electrical structures: Conform to elevations and dimensions shown 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 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 side 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: Place soil materials in layers to required subgrade elevations for each area classification, using materials and methods specified in Division 01, General Requirements.
 - 1. Under building slabs, use drainage fill materials.

3.02 ROUGH-IN

- A. Contractor shall verify lines, levels and dimensions shown 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 site.
- B. Verify final locations for rough-ins with field measurements and with the requirements for the actual equipment to be connected.
- C. Refer to equipment specification in Divisions 02 through 26 for rough-in requirements.

3.03 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. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for electrical installations.
 - 4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
 - 5. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.

6. Where mounting height is not detailed or dimensioned, contact the Architect for direction prior to proceeding with rough-in.
7. 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 shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Architect.
8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
9. 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.
10. Coordinate electrical systems, equipment, and materials installations with other building components.
11. Provide access panel or doors where devices or equipment are concealed behind finished surfaces. Furnish and install access doors per the requirements of Division 08.
12. Install systems, materials, and equipment giving right-of-way priority to other systems that are required to maintain a specified slope.
13. Conform to the National Electrical Contractor's Association "Standard of Installation" for general installation practice.

3.04 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.
- C. Application of joint sealers:
 1. General: Comply with joint sealer manufacturers' printed application instructions applicable to products and applications indicated, except where more stringent requirements apply.
 2. Installation of fire-stopping sealant: Install sealant, including forming, packing, and other accessory materials, to fill openings around electrical services penetrating floors and walls, to provide fire-stops and fire-resistance ratings indicated for floor or wall assembly in which penetration occurs. Comply with installation requirements established by testing and inspecting agency.

3.05 FIELD QUALITY CONTROL

- A. General: Perform tests to prove installation is in accordance with contract requirements. Perform tests in presence of the District's representative and furnish test equipment, facilities and technical personnel required to perform tests. Tests shall be conducted during the construction period and at completion to determine conformity with applicable codes and with these Specifications.
- B. Tests: In addition to specific system test described elsewhere, tests shall include:
 1. Insulation resistance: Perform 1000-volt DC tests for one minute on all equipment rated 300 volts and higher, feeder and branch circuit conductors, including the neutral. Make a typed record of all readings to be included in the maintenance instructions. Repair or replace circuits showing less than 10 megohms resistance to ground.

2. Circuit continuity: Test all feeder and branch circuits for continuity. Test all neutrals for improper grounds.
 3. Equipment operations: Test motors for correct operation and rotation.
 4. Lighting control circuits: Test lighting circuits for correct operation through their control devices.
 5. Alarm and interlock systems: Produce malfunction symptoms in operating systems to test alarm and interlock systems. In addition, all specific tests described in the fire alarm system shall be performed.
 6. Circuit numbering verification: Select on a random basis various circuit breakers in the panelboards and cycle them on and off to verify compliance of the typed panel directories with actual field wiring.
- C. Product failure: Any products which fail during the tests or are ruled unsatisfactory by the District's representative shall be replaced, repaired or corrected as prescribed by the District's representative at the expense of the Contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.
- D. Miscellaneous: Include all test results in the maintenance manual.
- E. Cleaning: After other work such as sanding, painting, etc. has been completed; clean lighting fixtures, panelboards, switchboards and other electrical equipment to remove dust, dirt, grease or other marks. Leave work in clean condition.
- F. Voltage check:
1. At completion of job, check voltage at several points of utilization on the system that has been installed under this Contract. During test, energize all installed loads.
 2. Adjust taps on transformers to give proper voltage, which is 118 to 122 volts for 120 volt nominal systems and proportionately equivalent for higher voltage systems. If proper voltage cannot be obtained, inform the District and the serving Utility Company.

3.06 PROJECT CLOSEOUT

- A. Training: At the time of completion, a period of not less than 24 hours shall be allotted by the Contractor for instruction of building operating and maintenance personnel in the use of all systems. This 24 hours training is in addition to any instruction time called out in the Specifications for specific systems, i.e., Fire Alarm, etc. All personnel shall be instructed at one time, the Contractor making all necessary arrangements with manufacturer's representative. The equipment manufacturer shall be requested to provide product literature and application guides for the users' reference. Costs, if any, for the above services shall be paid by the Contractor.
- B. Special tools: Provide one of each tool required for proper operation and maintenance of the equipment provided under this Section. All tools shall be delivered to the District at the Project completion.
- C. Keying: Provide two keys for each lock furnished under this Section and turn over to District.

END OF SECTION

PART 1 - GENERAL**1.01 SUMMARY**

- A. Work included:
 - 1. Power system grounding.
 - 2. Electrical equipment and raceway grounding and bonding.
- B. Related work:
 - 1. Division 05: Metals.
 - 2. Division 22: Cold Water Plumbing.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable specifications and standards except as otherwise shown or specified:
 - 1. Underwriters Laboratories, Inc. (UL):
 - a. UL 467; Grounding and Bonding Equipment.
 - 2. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - a. IEEE No. 142; Recommended Practice for Grounding of industrial and Commercial Power Systems.

1.03 SYSTEM DESCRIPTION

- A. Grounding of the electrical service system neutral at the service entrance equipment is existing and part of the existing main switchboard. Electrical contractor shall arrange and pay for the services of an independent testing agency to perform all electrical testing required herein to ensure the continuity of the grounding system.
- B. Except as otherwise indicated, the complete electrical installation including the neutral conductor, metallic conduits and raceways, cable trays, boxes, cabinets and equipment shall be completely and effectively grounded in accordance with all code requirements, whether or not such connections are specifically shown or specified.
- C. Resistance:
 - 1. Resistance from the main switchboard ground bus through the ground electrode to earth shall not exceed 5 OHMS unless otherwise noted.
 - 2. Resistance from the farthest panelboard, switchboard, etc. ground bus through the ground electrode to earth shall not exceed 20 OHMS

1.04 SUBMITTALS

- A. Submit in accordance with the requirements of Section 26 01 00: 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.

1.05 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new and unused, and of current manufacturer.

- 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. Equal products by the following manufacturers will be considered providing that all features of the specified product are provided:
 - 1. Ground Rods:
 - a. Weaver.
 - b. Erico "Cadweld" Products, Inc.
 - 2. Ground Wells:
 - a. Christy Concrete Products, Inc.
 - b. Forni Corp.
 - 3. Ground Bushings, Connectors, Jumpers and Bus:
 - a. O-Z/Gedney.
 - b. Thomas & Betts Corp.
- B. Substitutions: Under provisions of Section 26 01 00: Basic Electrical Requirements.

2.02 GROUND CONDUCTORS

- A. General purpose insulated: UL approved and code sized copper conductor, with dual rated THHN/THWN insulation, color identified green. Where continuous color-coded conductors are not commercially available, provide a minimum 4" long color band with green, non-aging, plastic tape in accordance with NEC.
- B. Bare conductors in direct contact with earth or encased in concrete: #4 AWG copper minimum. U.O.N.
- C. Bonding pigtails: Insulated copper conductor, identified green, sized per code, and provide with termination screw or lug. Provide solid conductors for #10 AWG or smaller and stranded conductors for #8 AWG or larger.

2.03 DRIVEN (GROUND) RODS

- A. Copper clad steel, minimum 3/4-inch diameter by 10 feet long, unless otherwise noted.

2.04 GROUND WELL BOXES FOR GROUND RODS

- A. Precast concrete box nominal 9" throat diameter x 14" deep with light duty concrete cover for non-traffic areas or steel plate for traffic areas. Cover shall be embossed or engraved with "GROUND ROD".

2.05 INSULATED GROUNDING BUSHINGS

- A. Plated malleable iron or steel body with 150 degree Centigrade molded plastic insulating throat and lay-in grounding lug.

2.06 CONNECTIONS TO PIPE

- A. For cable to pipe: UL and NEC approved bolted connection.

2.07 CONNECTIONS TO STRUCTURAL STEEL, GROUND RODS, OR SPLICES

- A. Where required by the drawings, grounding conductors shall be spliced together, connected to ground rods or connected to structural steel using exothermic welds or high pressure compression type connectors.

1. Exothermic welds shall be used for cable-to-cable and cable-to-ground rod and for cable to structural steel surfaces. Exothermic weld kits shall be as manufactured by Cadweld or equal. Each particular type of weld shall use a kit unique to that type of weld.
2. High-pressure compression type connectors shall be used for cable-to-cable and cable-to-ground rod connections. Connections shall be as manufactured by Thomas & Betts #53000 series or equal.

2.08 EXTRA FLEXIBLE, FLAT BONDING JUMPERS

- A. Where required by the drawing or specified herein.

2.09 MAIN BUILDING REFERENCE GROUND BUS

- A. Shall be furnished under a separate contract integral with the main service switchboard.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine site conditions for acceptance of grounding 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. Grounding electrodes:
1. Metal underground water pipe: Cold water metal piping system: Where the underground cold water service line is metal, in direct contact with the earth for 10 feet or more, the contractor shall install a grounding electrode conductor from the main incoming cold water line ahead of the meter and extend to the main building reference ground bus in the main electrical room. The electrode shall be sized per NEC Table 250-66. Electrode connection should be accessible.
 2. Concrete encased grounding electrode (UFER ground): Provide a #4 AWG minimum bare copper conductor encased along the bottom of concrete foundation or footings which are in direct contact with the earth and where there is no impervious water-proofing membrane between the footing and the soil. The electrode shall extend through a horizontal length of 20 feet minimum and shall be encased in not less than 2 or more than 5 inches of concrete separating it from surrounding soils. The electrode shall emerge from the concrete slab through a protective non-metallic sleeve and shall be extended to the main building reference ground bus.
 3. Supplementary grounding electrode (ground ring, grid, and driven rods): Provide, as shown on the drawings, driven ground rod(s) installed in listed ground well box(s) and filled with gravel after connection is made. Interconnect ground rod with structural steel and adjacent rods with minimum #4 AWG bare copper conductor. Ground rod shall not be less than 10 foot from any other electrode of another electrical system or from adjacent ground rod(s).
- B. Grounding electrode conductor: Provide grounding electrode conductor as indicated on the drawings or sized per NEC Table 250-66, whichever is greater.
- C. Power system grounding:
1. Provide a grounding electrode connection at each individual building on the campus. Connect the following items using NEC sized copper grounding conductors to lugs on each buildings service ground bus:
 - a. Grounding electrode conductor from metal underground water pipe, concrete encased electrode, and supplementary grounding electrodes.

Ground electrode connections may already exist at each building, but where there are not existing they shall be provided.

- b. Bonding conductor to metallic cold water piping system.
- c. Bonding conductor to building structural steel.

D. Equipment bonding/grounding:

- 1. Provide a NEC sized insulated copper ground conductor in all 120VAC through 600 VAC feeder and branch circuit distribution conduits and cables.
- 2. Provide a separate grounding bus at panelboards, switchboards. Connect all metallic enclosed equipment so that with maximum fault current flowing shall be maintained at not more than 35 volts above ground.
- 3. Conduit terminating in concentric, eccentric or oversized knockouts at panelboards, cabinets, gutters, etc. shall have grounding bushings and bonding jumpers installed interconnecting all such conduits.
- 4. Provide bonding jumpers across expansion and deflection couplings in conduit runs, pipe connections to water meters, dielectric couplings in metallic cold water piping system.
- 5. Provide internal ground wire in flexible conduit connected at each end via grounding bushing.
- 6. Provide external ground wire wrapped around flexible conduit and terminate to connectors designed for the purpose.

3.03 FIELD QUALITY CONTROL

- A. Independent Testing: Electrical contractor shall arrange and pay for the services of an independent testing agency to perform all quality control electrical testing required herein.
- B. Prefunctional testing:
 - 1. Provide testing agency with contract documents for their review prior to the commencement of ground testing.
 - 2. Visual and mechanical inspection:
 - a. The testing agency shall inspect the grounding electrode and connections prior to concrete encasement, burial, or concealment.
 - b. Check tightness and welds of all ground conductor terminations.
 - c. Verify installation complies with the intent of the contract documents
 - 3. Obtain and record ground resistance measurements both from electrical equipment ground bus to the ground electrode and from the ground electrode to earth. Furnish and install additional bonding and add grounding electrodes as required complying with resistance limits specified under this Section of the Specification.
 - 4. Typewritten records of measured resistance values shall be submitted for review and included with the operation and maintenance manual furnished to the District at the time of project closeout and before certificate of final payment is issued.

END OF SECTION

PART 1 - GENERAL**1.01 SUMMARY**

- A. Work included:
 - 1. Conduit supports.
 - 2. Equipment supports.
 - 3. Fastening hardware.
- B. Related work:
 - 1. Division 03 and 32: Cast-in-place concrete. Concrete equipment pads.
 - 2. Division 05: Miscellaneous metals. Hangers for electrical equipment.
 - 3. Division 09: Ceiling suspension systems. Slack fixture support wires.

1.02 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.

1.03 SUBMITTALS

- A. Submit in accordance with the requirements of Section 26 01 00: 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.

PART 2 – PRODUCTS**2.01 MANUFACTURERS**

- A. Equal products by the following manufacturers will be considered providing that all features of the specified product are provided:
 - 1. Concrete fasteners:
 - a. Phillips "Red-Head".
 - b. Remington.
 - c. Ramset.
 - 2. Concrete 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 26 01 00: 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 THREADED ROD

- A. Provide steel threaded rod, sized for the load unless otherwise noted on the Drawings or in the Specifications.

2.04 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.

2.05 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 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

- A. Coordinate size, shape and location of concrete pads with Division 32, Cast-in-place concrete.
- B. Layout support devices to maintain headroom, neat mechanical appearance and to support the equipment loads.
- C. Where shown on the Drawings or Specifications, 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 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 6 lag bolts. 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 blockings 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.

3.06 ANCHORAGE

- A. All floor mounted, free standing electrical equipment shall be securely fastened to the floor structure.
- B. Anchorage of electrical equipment shall comply with the seismic requirements as outlined in Section 26 07 10: Electrical Supports and Seismic Restraints.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Seismic restraints for electrical equipment and systems.
 - 3. Construction requirements for concrete bases.

1.03 DEFINITIONS, CBC, California Building Code, Latest Edition

- A. EMT: Electrical metallic tubing.
- B. IBC: International Building Code.
- C. IMC: Intermediate metal conduit.
- D. NBC: National Building Code.
- E. OSHPD: Office of Statewide Health Planning and Development.
- F. RMC: Rigid metal conduit.
- G. SBC: Standard Building Code.
- H. Seismic Restraint: A structural support element such as a metal framing member, a cable, an anchor bolt or stud, a fastening device, or an assembly of these items used to transmit seismic forces from an item of equipment or system to building structure and to limit movement of item during a seismic event.
- I. CBC – California Building Code 2013.

1.04 SUBMITTALS

- A. Product Data: Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of electrical support and seismic-restraint component used.
 - 1. Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by the ICBO Evaluation Service.
 - 2. Annotate to indicate application of each product submitted and compliance with requirements.
- B. Shop Drawings: Indicate materials and dimensions and identify hardware, including attachment and anchorage devices, signed and sealed by a qualified professional engineer. Professional engineer qualification requirements are specified in Division 01 Section "Quality Control." Include the following:
 - 1. Fabricated Supports: Representations of field-fabricated supports not detailed on Drawings.
 - 2. Seismic Restraints: Detail anchorage and bracing not defined by details or charts on Drawings. Include the following:
 - a. Design Analysis: To support selection and arrangement of seismic restraints. Include calculations of combined tensile and shear loads.

- b. Details: Detail fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacing. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events.
 - c. Preapproval and Evaluation Documentation: By the ICBO Evaluation Service, showing maximum ratings of restraint items and the basis for approval (tests or calculations).
- C. Coordination Drawings: Show coordination of seismic bracing for electrical components with other systems and equipment in the vicinity, including other supports and seismic restraints.
- D. Welding certificates.
- E. Qualification Data: For Licensed Professional Engineer in the State of California and testing agency approved by the Governing Authority.
- F. Field quality-control test reports.

1.05 QUALITY ASSURANCE

- A. Comply with seismic-restraint requirements in the California Building Code unless requirements in this Section are more stringent.
- B. Testing of Seismic Anchorage Devices: Comply with testing requirements in Part 3 and in Division 26 Section 26 07 10 "Electrical Supports and Seismic Restraints."
- C. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.06 PROJECT CONDITIONS

- A. Project Seismic Zone as Defined in the CBC: Zone 4.
- B. Project Seismic Zone Factor as Defined in the CBC: Zone Factor 0.40 for floor mounted 0.175 for structure mounted.
- C. Occupancy Category as Defined in the CBC: I, II, III, IV.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.02 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed under this Project, with a minimum structural safety factor of five times the applied force.

- B. Steel Slotted Support Systems: Comply with MFMA-3, factory-fabricated components for field assembly.
 - 1. Available Manufacturers:
 - a. Cooper B-Line; a division of Cooper Industries.
 - b. ERICO International Corporation.
 - c. Thomas & Betts Corporation.
 - d. Unistrut; Tyco International, Ltd.
 - 2. Finishes:
 - a. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-3.
 - b. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-3.
 - c. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-3.
 - 3. Channel Dimensions: Selected for structural loading and applicable seismic forces.
- C. Raceway and Cable Supports: As described in NECA 1.
- D. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- F. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- G. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers:
 - 1. Hilti, Inc.
 - 2. Simpson Strong-Tie Co. Inc.
 - 2. Mechanical-Expansion Anchors: zinc-coated steel, for use in hardened Portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - a. Manufacturers:
 - 1. Hilti, Inc.
 - 3. Concrete Inserts: Steel or malleable-iron slotted-support-system units similar to MSS Type 18; complying with MFMA-3 or MSS SP-58.
 - 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
 - 5. Through Bolts: Structural type, hex head, high strength. Comply with ASTM A 325.
 - 6. Toggle Bolts: All-steel springhead type.
 - 7. Hanger Rods: Threaded steel.

2.03 SEISMIC-RESTRAINT COMPONENTS

- A. Rated Strength, Features, and Application Requirements for Restraint Components: As defined in reports by the ICBO Evaluation Service
 - 1. Structural Safety Factor: Strength in tension, shear, and pullout force of components used shall be at least five times the maximum seismic forces to which they will be subjected.
- B. Angle and Channel-Type Brace Assemblies: Steel angles or steel slotted-support-system components; with accessories for attachment to braced component at one end and to building structure at the other end.
- C. Cable Restraints: ASTM A 603, zinc-coated, steel wire rope attached to steel or stainless-steel thimbles, brackets, swivels, and bolts designed for restraining cable service.
 - 1. Available Manufacturers:
 - a. Amber/Booth Company, Inc.
 - b. Loos & Co., Inc.
 - c. Mason Industries, Inc.
 - 2. Seismic Mountings, Anchors, and Attachments: Devices as specified in Part 2 "Support, Anchorage, and Attachment Components" Article, selected to resist seismic forces.
 - 3. Hanger Rod Stiffener: Steel tube or steel slotted support system sleeve with internally bolted connections to hanger rod, of design recognized by ICBO Evaluation Service.
 - 4. Bushings for Floor-Mounted Equipment Anchors: Neoprene units designed for seismically rated rigid equipment mountings, and matched to type and size of anchor bolts and studs used.
 - 5. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for seismically rated rigid equipment mountings, and matched to type and size of attachment devices used.

2.04 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Comply with requirements in Division 5 Section "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.01 APPLICATION

- A. Comply with NECA 1 for application of hangers and supports for electrical equipment and systems, except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to trapeze member with clamps approved for application by the ICBO Evaluation Service.
 2. Secure raceways and cables to these supports with two-bolt conduit clamps.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.02 SUPPORT AND SEISMIC-RESTRAINT INSTALLATION

- A. Comply with NECA 1 for installation requirements, except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Install seismic-restraint components using methods approved by the evaluation service providing required submittals for component.
- D. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- E. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
1. To Wood: Fasten with lag screws or through bolts.
 2. To New Concrete: Bolt to concrete inserts.
 3. To Masonry: Approved bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 4. To Existing Concrete: Expansion anchor fasteners.
 5. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts
 6. To Light Steel: Sheet metal screws.
 7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- F. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.03 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Division 5 Section "Metal Fabrications" for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M.

3.04 CONCRETE BASES

- A. Concrete Bases: Anchor equipment to concrete base according to equipment manufacturer's written instructions and seismic criteria at Project.
- B. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so expansion anchors will be a minimum of 10 bolt diameters from edge of the base.
 - 1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around full perimeter of the base.
 - 2. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
 - 3. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 4. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 5. Install anchor bolts according to anchor-bolt manufacturer's written instructions.
 - 6. Use 3000-psi (20.7-Mpa), 28-day compressive-strength concrete U.O.N on plans. Concrete materials, reinforcement, and placement requirements are specified in Division 3 Section "Cast-in-Place Concrete."

3.05 INSTALLATION OF SEISMIC-RESTRAINT COMPONENTS

- A. Install bushing assemblies for anchor bolts for floor-mounted equipment, arranged to provide resilient media between anchor bolt and mounting hole in concrete base.
- B. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.
- C. Restraint Cables: Provide slack within maximums recommended by manufacturer.
- D. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at upper flanges of beams, upper truss chords of bar joists, or at concrete members.

3.06 ACCOMMODATION OF DIFFERENTIAL SEISMIC MOTION

- A. Make flexible connections in runs of raceways, cables, wireways, cable trays, and busways where they cross expansion and seismic-control joints, where adjacent sections or branches are supported by different structural elements, and where they terminate with connection to electrical equipment that is anchored to a different structural element from the one supporting them as they approach equipment.

3.07 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing: Test pullout resistance of seismic anchorage devices.
 - 1. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
 - 2. Schedule test with Owner, through Architect, before connecting anchorage device to restrained component (unless postconnection testing has been approved), and with at least seven days' advance notice.

3. Obtain Architect's approval before transmitting test loads to structure. Provide temporary load-spreading members.
 4. Test all of installed anchors and fasteners.
 5. Test to 150 percent of rated proof load of device.
 6. If a device fails test, modify all installations of same type and retest until satisfactory results are achieved.
- C. Record test results.

END OF SECTION

PART 1 - GENERAL**1.01 SUMMARY**

- A. Work included:
 - 1. Electrical equipment nameplates.
 - 2. Main Switchboard directories
 - 3. Distribution Panelboard.
 - 4. Panelboard directories.
 - 5. Dry Type Transformers
 - 6. Wire and cable identification.
 - 7. Buried electrical line warnings.
 - 8. Junction box identification.
 - 9. Inscribed device coverplates.
 - 10. Flush-in-ground pull boxes.
- B. Related work:
 - 1. Division 9: Painting.

1.02 SUBMITTALS

- A. Submit in accordance with the requirements of Section 26 01 00: 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. Equal products by the following manufacturers will be considered providing that all features of the specified product are provided:
 - 1. Conduit and wire markers:
 - a. Thomas & Betts Corp
 - b. Brady
 - c. Griffolyn
 - 2. Inscription Tape:
 - a. Kroy
 - b. Merlin
- B. Substitutions: Under provisions of Section 26 01 00: 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 BRASS TAGS

- A. Type BT: Metal tags with die-stamped legend, punched for fastener.
- B. Dimensions: 2" diameter 19 gauge.

2.04 PANELBOARD DIRECTORIES (400 AMP OR LESS)

- A. Directories: A 6" x 8" minimum size circuit directory frame and card with clear plastic covering shall be provided inside the inner panel door.
- B. Circuit numbering: Starting at the top, odd numbered circuits in sequence down the left hand side and even numbered circuits down the right hand side. Multi-section panelboards shall have continuous consecutive circuit numbers, i.e. Section 1 (circuit numbers 1-42), Section 2 (circuit numbers 43-84), and Section 3 (circuit numbers 85-126).

2.05 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.

2.06 CONDUCTOR PHASE MARKERS

- A. Colored vinyl plastic electrical tape, 3/4" wide, for identification of phase conductors. Scotch 35 Brand Tape or equal.

2.07 UNDERGROUND CONDUIT MARKER

- A. 6-inch wide, yellow polyethylene tape with a trace wire, with continuous black imprinting reading "Caution - Buried Electric Line Below".

2.08 INSCRIBED DEVICE COVERPLATES

- A. Coverplate material shall be as specified in Section 26 14 00: Wiring Devices.
- B. Methods of inscription: (Unless otherwise noted)
 - 1. Type-on-tape:
 - a. Imprinted or thermal transfer characters onto tape lettering system.
 - b. Tape trimmer.
 - c. Matte finish spray-on clear coating.
 - 2. Engraving:
 - a. 1/8" high letters.
 - b. Paint filled letters finished in black.

PART 3 - EXECUTION**3.01 EXAMINATION**

- A. Contractor shall thoroughly examine 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. Amperage, KVA or horsepower rating, where applicable.
 - 3. Voltage or signal system name.
 - 4. Source of power or control.
 - 5. Examples:
 - a. Boards: HD2A; 225A; 277/480V, 3PH, 4W; Served from: EH2A-4
 - b. Transformers: TX-2A; 150KVA; 480V pri. - 120/208V, 3PH, 4W sec.; Served from: HD2A; Load Served: L2A
 - c. Disconnects or Individual Motor Starters: EF-1; 20HP; 480V, 3PH, 3W; Served from MCC-1A
 - d. Signal: STB-3; Public Address System; Served from STBM
- 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.
 - 2. Security system - Green.
 - 3. Clock, intercom, PA, MATV, CATV - Blue.
- E. Minimum letter height shall be as follows:
 - 1. For panelboards, switchboards, etc.: ½ inch letters to identify equipment designation. Use ¼ inch letters to identify voltage, phase, wires, etc.
 - 2. For individual circuit breakers, switches and motor starters in panelboards and switchboards use 3/8-inch letters to identify equipment designation. Use 1/8-inch letters to identify all other.
 - 3. For individual mounted circuit breakers, disconnect switches, enclosed switches and motor starters use 3/8-inch letters to identify equipment designation. Use 1/8" letters to identify all other.
 - 4. For equipment cabinets, terminal cabinets, control panels and other cabinet enclosed apparatus use 3/8-inch letters to identify equipment designation.

3.03 BRASS TAGS

- A. Provide type BT tags for individual ground conductors to exposed ground bus indicating connection i.e. "UFER", "Cold water bond", etc.
- B. Provide tags for all feeder cables in underground vaults and pull boxes.
- C. Provide tags for empty conduits in underground vault, pull boxes, and stubs.

3.04 PANELBOARD DIRECTORIES (400 AMP OR LESS)

- A. Provide typewritten directories arranged in numerical order denoting loads served by room number or area for each circuit.
- B. Verify room numbers or area designation with project manager.
- C. Mount panelboard directories in a minimum 6" x 8" metal frame under clear plastic cover inside every panelboard.

3.05 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 26 12 00: Conductors and Cables. 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.

3.06 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.

3.07 JUNCTION BOX 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.

3.08 INSCRIBED DEVICE COVERPLATE

- A. General:
 - 1. Lettering type: Helvetica, 12 point or 1/8" high.
 - 2. Color of characters shall be black.
 - 3. Locate the top of the inscription 1/2" below the top edge of the coverplate.
 - 4. Inscription shall be centered and square with coverplate.
- B. Application:
 - 1. Provide inscribed coverplates for devices as outlined below:
 - a. Receptacles.
 - b. Outlets in surface raceways.
 - 2. Type-on-tape inscriptions shall be provided for the following devices:
 - a. Receptacles.
 - b. Outlets in surface raceways.
 - 3. Type-on-tape installation:
 - a. Tape shall be trimmed to the height of the letters.
 - b. Trim tape length to 1/4 inch back from each edge of coverplate.
 - c. Contractor hands shall be clean or covered with surgical type glove prior to application of tape. Tape installations with visible fingerprints or smudges will not be acceptable.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- B. Related Sections include the following:
 - 1. Division 02 Section Existing Conditions.

1.03 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. ENT: Electrical nonmetallic tubing.
- C. EPDM: Ethylene-propylene-diene terpolymer rubber.
- D. FMC: Flexible metal conduit.
- E. IMC: Intermediate metal conduit.
- F. LFMC: Liquidtight flexible metal conduit.
- G. LFNC: Liquidtight flexible nonmetallic conduit.
- H. NBR: Acrylonitrile-butadiene rubber.
- I. RNC: Rigid nonmetallic conduit.

1.04 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Custom enclosures and cabinets.
 - 2. For handholes and boxes for underground wiring, including the following:
 - a. Duct entry provisions, including locations and duct sizes.
 - b. Frame and cover design.
 - c. Grounding details.
 - d. Dimensioned locations of cable rack inserts, and pulling-in and lifting irons.
 - e. Joint details.
- C. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
 - 1. Structural members in the paths of conduit groups with common supports.

2. HVAC and plumbing items and architectural features in the paths of conduit groups with common supports.
- D. Manufacturer Seismic Qualification Certification: Submit certification that enclosures and cabinets and their mounting provisions, including those for internal components, will withstand seismic forces defined in Division 26 Section 26 07 10 "Electrical Supports and Seismic Restraints." Include the following:
 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the cabinet or enclosure will remain in place without separation of any parts when subjected to the seismic forces specified and the unit will retain its enclosure characteristics, including its interior accessibility, after the seismic event."
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- E. Qualification Data: For professional engineer and testing agency.
- F. Source quality-control test reports.

1.05 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 METAL CONDUIT AND TUBING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. AFC Cable Systems, Inc.
 2. Alfex Inc.
 3. Allied Tube & Conduit; a Tyco International Ltd. Co.
 4. Anamet Electrical, Inc.; Anaconda Metal Hose.
 5. Electri-Flex Co.
 6. Manhattan/CDT/Cole-Flex.
 7. Maverick Tube Corporation.
 8. O-Z Gedney; a unit of General Signal.
 9. Wheatland Tube Company.
- C. Rigid Steel Conduit: ANSI C80.1.
- D. Aluminum Rigid Conduit: ANSI C80.5.
- E. IMC: ANSI C80.6.

- F. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
 - 1. Comply with NEMA RN 1
 - 2. Coating Thickness: 0.040 inch minimum.
- G. EMT: ANSI C80.3.
- H. LFMC: Flexible steel conduit with PVC jacket.
- I. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMAFB1 listed for type and size raceway with which used and for application and environment in which installed.
 - 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
 - 2. Fittings for EMT: Steel set-screw for 1 inch size conduits or less and steel compression type for conduits greater than 1 inch.
 - 3. Coating for Fittings for PVC-Coated Conduit: Minimum thickness, 0.040 inch with overlapping sleeves protecting threaded joints.
- J. JointCompound for Rigid Steel Conduit of IMC: Listed for use in cable connector assemblies and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.02 NONMETALLIC CONDUIT AND TUBING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. CertainTeed Corp.; Pipe & Plastics Group.
 - 2. Condux International, Inc.
 - 3. ElecSYS, Inc.
 - 4. Electri-Flex Co.
 - 5. Lamson & Sessions; Carlon Electrical Products.
 - 6. Manhattan/CDT/Cole-Flex.
 - 7. RACO; a Hubbell Company.
 - 8. Thomas & Betts Corporation.
- C. ENT: NEMA TC 13.
- D. RNC: NEMA TC 2, Type EPC-40-PVC unless otherwise indicated.
- E. LFNC: UL 1660.
- F. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
- G. Fittings for LFNC: UL 514B.

2.03 OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY AND FITTINGS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Arnco Corporation
 - 2. Endot Industries, Inc.
 - 3. IPEX Inc.
 - 4. Lamson and Sessions; Carlon Electrical Products
- C. Description: Comply with UL 2024; flexible type, approved for general-use installation.

2.04 METAL WIREWAYS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman.
 - 3. Square D; Schneider Electric.
- C. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1 for indoor and Type 3R for outdoor.
- D. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- E. Wireway Covers: Hinged type, with lockable doors.
- F. Finish: Manufacturer's standard enamel finish.

2.05 NONMETALLIC WIREWAYS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Hoffman.
 - 2. Lamson & Sessions; Carlon Electrical Products.
- C. Description: Fiberglass polyester, extruded and fabricated to size and shape indicated, with no holes or knockouts. Cover is gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections are flanged, with stainless-steel screws and oil-resistant gaskets.
- D. Description: PVC plastic, extruded and fabricated to size and shape indicated, with snap on cover and mechanically coupled connections with plastic fasteners.
- E. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.06 BOXES, ENCLOSURES, AND CABINETS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
 - 2. EGS/Appleton Electric.
 - 3. Erickson Electrical Equipment Company.
 - 4. Hoffman.
 - 5. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 - 6. O-Z/Gedney; a unit of General Signal
 - 7. RACO; a Hubbell Company.
 - 8. Robroy Industries, Inc.; Enclosure Division.
 - 9. Scott Fetzer Co.; Adalet Division.
 - 10. Spring City Electrical Manufacturing Company.
 - 11. Thomas & Betts Corporation.
 - 12. Walker Systems, Inc.; Wiremold Company (The).
 - 13. Woodhead, Daniel Company; Woodhead Industries, Inc. Subsidiary.
- C. Sheet Metal Outlet and Device Boxes: NEMA OS 1
- D. Cast-Metal Outlet and Device Boxes: NEMA FB 1, Type FD, with gasketed cover.
- E. Nonmetallic Outlet and Device Boxes: NEMA OS 2.
- F. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- G. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, Galvanized steel with gasketed cover.
- H. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated. Galvanized-steel, finished inside and out with manufacturer's standard enamel.
- I. Cabinets:
 - 1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage
 - 5. Accessory feet where required for freestanding equipment.

2.07 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. Description: Comply with SCTE 77.
 - 1. Color of Frame and Cover: Gray.
 - 2. Configuration: Units shall be designed for flush burial and have open bottom, unless otherwise indicated.
 - 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 - 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 - 5. Cover Legend: Molded lettering, "ELECTRIC", "TELECOMMUNICATIONS", "FIRE ALARM" as indicated for each service
 - 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
 - 7. Handholes: Sized per code. Larger non-standard handholes shall have inserts for cable racks and pulling-in irons installed before concrete is poured.
- B. Concrete Handholes and Boxes with Steel Cover rated H/20: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel or fiberglass or a combination of the two.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.
 - c. CDR Systems Corporation.
 - d. Christy

2.08 SLEEVES FOR RACEWAYS

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch thickness as indicated and of length to suit application.

2.09 SLEEVE SEALS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following
- C. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:
 1. Advance Products & Systems, Inc.
 2. Calpico, Inc.
 3. Metraflex Co
 4. Pipeline Seal and Insulator, Inc.
- D. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
 1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 2. Pressure Plates: Stainless steel. Include two for each sealing element.
 3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.10 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

- A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
 1. Tests of materials shall be performed by an independent testing agency.
 2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.

3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012, and traceable to NIST standards

PART 3 - EXECUTION

3.01 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
 1. Exposed Conduit: Rigid steel conduit.
 2. Concealed Conduit, Aboveground: EMT.
 3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
 6. Application of Handholes and Boxes for Underground Wiring:
 - a. Handholes and Pull Boxes in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Polymer concrete, SCTE 77, Tier 15 structural load rating.
 - b. Handholes and Pull Boxes in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Polymer-concrete units with polymer-concrete frame and cover, SCTE 77, Tier 8 structural load rating.
 - c. Handholes and Pull Boxes Subject to Light-Duty Pedestrian Traffic Only: Fiberglass-reinforced polyester resin, structurally tested according to SCTE 77 with 3000-lbf vertical loading.
- B. Comply with the following indoor applications, unless otherwise indicated:
 1. Exposed, Not Subject to Physical Damage: EMT
 2. Exposed and Subject to Severe Physical Damage: Rigid steel conduit.
 3. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations
 5. Damp or Wet Locations: Rigid steel conduit.
 6. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 3R stainless steel in damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with that material. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer.
- E. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.
- F. Do not install aluminum conduits in contact with concrete.

3.02 INSTALLATION

- A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.

- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Support raceways as specified in Division 26 Section "Electrical Supports and Seismic Restraints."
- E. Arrange stub-ups so curved portions of bends are not visible above the finished slab
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- H. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Change from ENT to RNC, Type EPC-40-PVC, rigid steel conduit, or IMC before rising above the floor.
- I. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- J. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
- K. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
- L. Raceways for Optical Fiber and Communications Cable: Install raceways, metallic and nonmetallic, rigid and flexible, as follows:
 - 1. Provide minimum conduit size as shown on drawings. Larger size conduits are permitted for ease of installation or standardization.
 - 2. Install with a maximum of two 90-degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.
- M. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where otherwise required by NFPA 70.
- N. Expansion-Joint Fittings for RNC: Install in each run of aboveground conduit that is located where environmental temperature change may exceed 30 deg F, and that has straight-run length that exceeds 25 feet.

1. Install expansion-joint fittings for each of the following locations, and provide type and quantity of fittings that accommodate temperature change listed for location:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces: Connected with the Outdoors without Physical Separation: 125 deg F temperature change.
 - d. Attics: 135 deg F temperature change.
 2. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change.
 3. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at the time of installation.
- O. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semi-recessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
1. Use LFMC in damp or wet locations subject to severe physical damage.
 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- P. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.
- Q. Set metal floor boxes level and flush with finished floor surface.
- R. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.03 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:
1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 31 for pipe less than 6 in nominal diameter.
 2. Install backfill as specified in Division 31.
 3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp back fill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 31.
 4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through the floor, unless otherwise indicated. Encase elbows for stub-up ducts throughout the length of the elbow.
 5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
 - b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
 6. Warning tape: Bury warning tape with trace wire approximately 12 inches above direct-buried conduits. Align tape along the width and along the centerline of conduit.

3.04 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade
- D. Install handholes and boxes with bottom below the frost line, below grade
- E. Install removable hardware, including pulling eyes cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in the enclosure.
- F. Install removable hardware, including pulling eyes, cable stanchions, Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.05 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Concrete Slabs, wall footings and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs, under wall footings and walls.
- B. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- C. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve cross-section rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
 - 2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.
- F. Extend sleeves installed in floors 2 inches above finished floor level.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway unless sleeve seal is to be installed.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint. Refer to Division 07 Section "Joint Sealants" for materials and installation.
- K. Roof-Penetration Sleeves: Seal penetration of individual raceways with flexible, boot-type flashing units applied in coordination with roofing work.

- L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- M. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between raceway and sleeve for installing mechanical sleeve seals.

3.06 SLEEVE-SEAL INSTALLATION

- A. Install to seal underground, exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.07 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.
 - 3. Sleeves and sleeve seals for cables.
- B. Related Sections include the following:
 - 1. Division 27- Communications and Division 28 – Fire Alarm System

1.03 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. THWN: Moisture-resistant and heat-resistant thermoplastic.
- C. THHN: Heat-resistant thermoplastic.
- D. XHHW: Moisture-resistant thermoset.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency.
- C. Field quality-control test reports.

1.05 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the International Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
 - 1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

1.06 COORDINATION

- A. Set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS**2.01 CONDUCTORS AND CABLES**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Alcan Products Corporation; Alcan Cable Division.
 - 2. American Insulated Wire Corp.; a Leviton Company.
 - 3. General Cable Corporation.
 - 4. Senator Wire & Cable Company.
 - 5. Southwire Company.
- C. Copper Conductors: Comply with NEMA WC 70.
- D. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN and XHHW.
- E. Multiconductor Cable: Type "MC" cable NOT PERMITTED.

2.02 CONNECTORS AND SPLICES

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Hubbell Power Systems, Inc.
 - 3. O-Z/Gedney; EGS Electrical Group LLC.
 - 4. 3M; Electrical Products Division.
 - 5. Tyco Electronics Corp.
- C. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.03 SLEEVES FOR CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch (1.3- or 3.5-mm) thickness as indicated and of length to suit application.

2.04 SLEEVE SEALS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- C. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:
 - 1. Advance Products & Systems, Inc.
 - 2. Calpico, Inc.
 - 3. Metraflex Co.
 - 4. Pipeline Seal and Insulator, Inc.
- D. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
 - 1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 - 2. Pressure Plates: Stainless steel. Include two for each sealing element.
 - 3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

PART 3 - EXECUTION

3.01 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.02 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Per PG&E Requirements.
- B. Exposed Feeders: Type THHN-THWN, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN, single conductors in raceway.
- E. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THWN, single conductors in raceway.
- F. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN, single conductors in raceway.
- G. Class 1 Control Circuits: Type THWN, in raceway.
- H. Class 2 Control Circuits: Type THWN, in raceway.

3.03 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.

- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means; including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Support cables according to Division 26 Section "Electrical Supports and Seismic Restraints."
- F. Identify and color-code conductors and cables according to Division 26 Section "Electrical Identification."

3.04 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.05 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- B. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- C. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
 - 2. For sleeve rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both wall surfaces.
- F. Extend sleeves installed in floors 2 inches above finished floor level.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and cable unless sleeve seal is to be installed.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and cable, using joint sealant appropriate for size, depth, and location of joint according to Division 07 Section "Joint Sealants."

- J. Roof-Penetration Sleeves: Seal penetration of individual cables with flexible boot-type flashing units applied in coordination with roofing work.
- K. Aboveground Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeves to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- L. Underground Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between cable and sleeve for installing mechanical sleeve seals.

3.06 SLEEVE-SEAL INSTALLATION

- A. Install to seal underground exterior-wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for cable material and size. Position cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.07 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.
- B. Perform tests and inspections and prepare test reports.
- C. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors, and branch circuit conductors.
 - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 3. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each splice in cables and conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner.
 - a. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each splice 6 months after date of Substantial Completion.
 - b. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - c. Record of Infrared Scanning: Prepare a certified report that identifies splices checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken and observations after remedial action.
- D. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- E. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following lighting control devices:
 - 1. Outdoor photoelectric switches.
 - 2. Switch-box occupancy sensors.
 - 3. Ceiling-mounted occupancy sensors.
 - 4. Modular Lighting Controller
- B. Related Sections include the following:
 - 1. Division 26 Section "Wiring Devices" for wall switches and occupancy sensors.

1.03 DEFINITIONS

- A. LED: Light-emitting diode.
- B. PIR: Passive infrared.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show installation details for occupancy and light-level sensors.
 - 1. Lighting plan showing location, orientation, and coverage area of each sensor.
 - 2. Interconnection diagrams showing field-installed wiring.
- C. Field quality-control test reports.
- D. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1.05 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.06 COORDINATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.02 GENERAL LIGHTING CONTROL DEVICE REQUIREMENTS

- A. Line-Voltage Surge Protection: An integral part of the devices for 120- and 277-V solid-state equipment. For devices without integral line-voltage surge protection, field-mounting surge protection shall comply with IEEE C62.41 and with UL 1449.
- B. Modular Lighting Controller: Electronic, solid-state programmable units with alphanumeric display complying with UL 917.
1. Contact Configuration: SPST.
 2. Contact Rating: 20-A ballast load, 120/240-V ac.
 3. Program: Single channel 2 on-off set points on a 24-hour schedule, allowing different set points for each day of the week and an annual holiday schedule that overrides the weekly operation on holidays.
 4. Programs: 24 channels.
 - a. For each channel, 2 on-off set points on a 24-hour schedule, allowing different set points for each day of the week.
 - b. For each channel, 40 on-off operations per week and an annual holiday schedule that overrides the weekly operation on holidays.
 - c. For each channel, 40 on-off operations per week, plus 4 seasonal schedules that modify the basic program, and an annual holiday schedule that overrides the weekly operation on holidays.
 5. Circuitry: Allow connection of a photoelectric relay as substitute for on and off function of a program.
 6. Astronomical Time: Selected channels for exterior lighting circuits.
 7. Battery Backup: For schedules and time clock.

2.03 OUTDOOR PHOTOELECTRIC SWITCHES

- A. Manufacturers:
1. The WattStopper.
 2. Intermatic, Inc.
 3. Lithonia Lighting.
 4. Novitas, Inc.
 5. Square D.
 6. TORK.
- B. Description: Solid state, with SPST dry contacts rated for 1800-VA tungsten, to operate connected relay, contactor coils, microprocessor input, and complying with UL 773A.
1. Light-Level Monitoring Range: 1.5 to 10 fc , with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of photocell to prevent fixed light sources from causing turn-off.
 2. Time Delay: 15-second minimum, to prevent false operation.

3. Surge Protection: Metal-oxide varistor type, complying with IEEE C62.41 for Category A1 locations.
4. Mounting: Twist lock complying with IEEE C136.10, with base-and-stem mounting or stem-and-swivel mounting accessories as required to direct sensor to the North sky exposure.

2.04 OCCUPANCY SENSORS

- A. Manufacturers:
 1. The WattStopper.
 2. Leviton Mfg. Company Inc.
 3. Lithonia Lighting.
 4. Novitas, Inc.
 5. Hubbell Lighting Inc.
- B. General Description: Ceiling- mounting, solid-state units with a separate relay unit.
 1. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
 2. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.
 3. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
 4. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
 5. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
 6. Bypass Switch: Override the on function in case of sensor failure.
 7. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc; keeps lighting off when selected lighting level is present.
- C. Ultrasonic Type: Ceiling mounting; detect occupancy by sensing a change in pattern of reflected ultrasonic energy in area of coverage.
 1. Detector Sensitivity: Detect a person of average size and weight moving at least 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
 2. Detection Coverage (Small Room): Detect occupancy anywhere within a circular area of 600 sq. ft. (56 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
 3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on an 8-foot- (2.4-m-) high ceiling.
 4. Detection Coverage (Large Room): Detect occupancy anywhere within a circular area of 2000 sq. ft. (186 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
 5. Detection Coverage (Corridor): Detect occupancy anywhere within 90 feet (27 m) when mounted on a 10-foot- (3-m-) high ceiling in a corridor not wider than 14 feet (4.3 m).

- D. Dual-Technology Type: Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on and off functions shall be selectable in the field by operating controls on unit.
 - 1. Sensitivity Adjustment: Separate for each sensing technology.
 - 2. Detector Sensitivity: Detect occurrences of 6-inch (150-mm) minimum movement of any portion of a human body that presents a target of at least 36 sq. in. (232 sq. cm), and detect a person of average size and weight moving at least 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
 - 3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.

2.05 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG, complying with Division 26 Section "Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multiconductor cable with stranded copper conductors not smaller than No. 22 AWG, complying with Division 26 Section "Conductors and Cables."
- C. Class 1 Control Cable: Multiconductor cable with stranded copper conductors not smaller than No. 16 AWG, complying with Division 26 Section "Conductors and Cables."
- D. Install unshielded, twisted-pair cable for control and signal transmission conductors, complying with Division 27.

PART 3 - EXECUTION

3.01 SENSOR INSTALLATION

- A. Install and aim sensors in locations to achieve at least 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.02 WIRING INSTALLATION

- A. Wiring Method: Comply with Division 26 Section "Conductors and Cables." Minimum conduit size shall be 3/4 inch.
- B. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Install field-mounting transient voltage suppressors for lighting control devices in Category A locations that do not have integral line-voltage surge protection.
- D. Size conductors according to lighting control device manufacturer's written instructions, unless otherwise indicated.
- E. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

- F. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.03 IDENTIFICATION

- A. Identify components and power and control wiring according to Division 26 Section "Electrical Identification."
- B. Label time switches and contactors with a unique designation.

3.04 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 - 1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
 - 2. Operational Test: Verify actuation of each sensor and adjust time delays.
- B. Remove and replace lighting control devices where test results indicate that they do not comply with specified requirements.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.05 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting sensors to suit actual occupied conditions. Provide up to two visits to site outside normal occupancy hours for this purpose.

END OF SECTION

PART 1 - GENERAL**1.01 SUMMARY**

- A. Work included:
 - 1. Wall switches.
 - 2. Receptacles.
 - 3. Floor mounted service boxes.
 - 4. Coverplates.

1.02 REFERENCES

- A. Comply with the latest edition of the following applicable specifications and standards except as otherwise shown or specified.
 - 1. National Electrical Manufacturer's Association (NEMA):
 - a. NEMA WD-1; General-Purpose Wiring Devices.
 - b. NEMA WD-5; Specific-Purpose Wiring Devices.
 - 2. Underwriter's Laboratories (UL):
 - a. UL 514A; Metallic Outlet Boxes.

1.03 SUBMITTALS

- A. Submit in accordance with the requirements of Section 26 01 00: 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. Provide color finishes for Architect to select from.
 - 4. Submit manufacturer's installation instructions.

1.04 MANUFACTURERS

- A. Equal products by the following manufacturers will be considered providing that all features of the specified product are provided.
 - 1. Switches, receptacles and coverplates:
 - a. Hubbell.
 - b. Pass & Seymour.
 - c. Leviton.
 - 2. Occupancy sensors switches:
 - a. Leviton.
 - b. The Watt Stopper.
 - 3. Floor mounted service boxes:
 - a. Hubbell.
 - b. Wiremold.
- B. Substitutions: Under provisions of Section 26 01 00: Basic Electrical Requirements.

1.05 WALL SWITCHES

- A. Standards: Provide general-purpose 120/277 VAC switches that conform to NEMA WD-1 specifications.
- B. Color: Device color shall be white as selected by the Architect, unless otherwise noted.
- C. Wall switches:
 - 1. Provide twenty ampere, 120/277 volt, specification grade, toggle handlestyle, quick-make slow-break, quiet type snap switch with silver cadmium alloy

- contacts, binding head terminal screws, back and side wired with totally enclosed case.
 - 2. Single pole, single throw switches: Hubbell #1221 series, Pass & Seymour #20AC1 series, or Leviton #1221 series Hubbell #2121 series, Pass & Seymour #26021 series, or Leviton #5621-2 series.
 - 3. Double pole, single throw switches: Hubbell #1222 series, Pass & Seymour #20AC2 series, or Leviton #1222 series Hubbell #2122 series, Pass & Seymour #26022 series, or Leviton #5622-2 series.
 - 4. Three way switches: Hubbell #1223 series, Pass & Seymour #20AC3 series, or Leviton #1223 series Hubbell #2123 series, Pass & Seymour #26023 series, or Leviton #5623-2 series.
 - 5. Four way switches: Hubbell #1224 series, Pass & Seymour #20AC4 series, or Leviton #1224 series Hubbell #2124 series, Pass & Seymour #26024 series, or Leviton #5624-2 series.
 - 6. Key lock switches: 20 amp 120/277 volt AC barrel key locking switch single pole Hubbell cat #HBL1221 RKL & single gang 302 stainless steel wall plate with on/off marking cat #512RKL
- D. Pilot light switches:
- 1. Provide twenty ampere, 120/277 volt, specification grade, toggle handle, quick-make slow-break, quiet type snap switch with silver cadmium alloy contacts, binding head terminal screws, back and side wired with red pilot mounted on switch-handle lighted by a neon lamp which is lighted when the switch is in the 'on' position.
 - 2. Single pole, single throw switches: Hubbell #1221 PL/PL7, Leviton #1221 PLG/7PG or Pass & Seymour #20AC1-RPL Hubbell #2121 PL/PL7, Leviton #5628/5629-2 series, or Pass & Seymour #26029 series (120V.)
 - 3. Double pole, single throw switches: Hubbell #1222 PL/PL7, Leviton #1222 PLG/7PG, Pass & Seymour #20AC2-RPL.
 - 4. Three way switches: Hubbell #1223 PL/PL7, Leviton #1223 PLG/7PG, or Pass & Seymour #20AC3-RPL Leviton #5638/5639-2 series.

1.06 OCCUPANCY SENSOR SWITCHES

- A. General:
- 1. Occupancy sensors shall comply with the latest edition of the California Building Energy Efficiency Standards, California Building Code, Part 6 and be certified by The California Energy Commission. All sensors shall be listed in the most current directory of Certified Occupancy Sensing Devices or be on file with the CEC.
 - 2. Occupancy sensors shall be ultrasonic or infrared as specified herein with voltage and wattage rating equal to the lights being controlled.
 - 3. All sensors shall have an adjustable time delay for turning off lights and a sensitivity adjustment.
 - 4. Ceiling mounted sensors shall operate on low voltage as supplied by control unit. Control unit shall contain power supply and relays for switching loads.
 - 5. Units shall be furnished to cover the areas being controlled. No allowance shall be given for providing sensors improperly sized for the square footage of the controlled area.
- B. Color: Device color shall be white as selected by architect, unless otherwise noted.
- C. Wall mounted single level control sensors:
- 1. Sensor shall be infrared type with single level switching capability and coverage up to 900 square feet.
 - 2. Operation shall be automatic "ON" and manual or automatic "OFF".
 - 3. Time delay adjustment from 30 seconds to 30 minutes. Set adjustment at 4 minutes.
 - 4. Load capacity of 0 to 1800 watts at connected voltage.

5. For use in small utility closets where dual level switching is not indicated or required.
- D. Wall mounted dual level control sensors:
 1. Sensor shall be infrared type with dual level switching capability and coverage up to 1000 square feet.
 2. Operation shall be automatic "ON" and manual (in two levels) or automatic (full) "OFF".
 3. Time delay adjustment from 30 seconds to 30 minutes. Set adjustment at 10 minutes. Set sensitivity adjustment at maximum.
 4. Load capacity of 50 to 1000 watts at connected voltages.
 5. Integral photocell, 2 circuit, compatible with electronic bi-level switching ballast. Provide with ambient light control adjustment.
 6. For use in small office spaces where dual level switching is indicated or required by code.

1.07 RECEPTACLES

- A. Standards:
 1. Provide general purpose 15 and 20 ampere, 125/250 VAC receptacles that conform to NEMA WD-1 specifications. Specialty receptacles shall conform to NEMA WD-5 specifications as applicable.
 2. Provide NEMA 5-20R, specification grade as noted herein, 20 amps, 125 VAC, 2 pole, 3 wire grounding type receptacles.
 3. Receptacles shall be the standard style device.
- B. Color: Device color shall be white unless otherwise noted.
- C. General purpose single outlets:
 1. Provide self-grounding back and side wired with binding head staked terminal screw.
 2. Use Hubbell #5361 series, Pass & Seymour #5361 series Leviton #5361 series Hubbell #2161 series, Pass & Seymour #26361 series, or Leviton #16351 series.
- D. General purpose duplex receptacles:
 1. Provide self-grounding, back and side wired with binding head staked terminal screws and break-off strip for two-circuit wiring.
 2. Use Hubbell #5362 series, Pass & Seymour #5362 series, or Leviton #5362 series Hubbell #2162 series, Pass & Seymour #26362 series, or Leviton #16352 series.
- E. Ground fault circuit interrupting (GFCI) receptacles:
 1. Provide 20 amp, 125 VAC, receptacles consisting of NEMA 5-20R duplex device with integral solid state sensing and signaling circuitry capable of detecting and interrupting a maximum 5 milli-amp line-to-ground fault current in approximately 1/40th of a second.
 2. Provide visual device with trip indication, manual reset and test mechanisms and with point of use and multi-outlet protection.
 3. Use Pass & Seymour #2091-S series, Hubbell GF-5362 series, Leviton #6898 series, for specification grade GFCI receptacles.
- F. Special purpose receptacles: Provide specification grade devices with the NEMA configuration, voltage, and current rating, number of poles and ground provisions as noted on the Drawings.

1.08 FLOOR MOUNTED SERVICE BOXES

- A. Multi-service recessed floor box:

1. Combination power and communication cable service floor box with flush cover and recessed compartment for access to service device(s). Box shall be for installation concrete floors.
2. Box shall be constructed of formed steel with provisions for adjustments before and after pour. Access hatch shall be steel and provided with carpet trim and insert. Make allowances for floor finishes if other than carpet. Furnish with specified receptacle(s) and accessories called for on drawings.
3. Use Hubbell #3SFB-SS series or Walker 'Resource RFB' series.

1.09 COVERPLATES

- A. General:
1. Provide all coverplates with rounded edges and corners, smooth and free of grooves, embossing or other embellishment.
 2. Provide mounting screws to match the plate finish.
 3. Provide gang type coverplates where two or more devices are installed at one location. Individual gangable coverplates are not acceptable.
 4. Provide plates of one design, standard conventional style, throughout the project unless otherwise specified.
- B. Metal coverplates:
1. Provide smooth, Satin Stainless-Steel type 302 coverplates, 0.035" thick with rounded edges and corners.
 2. Provide openings to accommodate the devices indicated on the Drawings and in the Specifications.
 3. Provide removable plastic film to protect coverplates during installation. Remove film at time of final acceptance.
- C. Weatherproof coverplates:
1. Public area receptacles:
 - a. Provide weatherproof coverplate for one duplex or one GFCI receptacle. Provide gasketed, in-use, lockable, vertically covers suitable for use in damp and wet locations as described in UL 514 and NEC 410.
 - b. Furnish base plates, covers, hinge pins, spring and screws of corrosion resistant type 302 stainless steel.
 - c. Use Hubbell WP-8M or equal coverplate for duplex receptacles.
 - d. Use Hubbell WP-26M or equal coverplate for GFCI receptacle.
 - e. Provide two (2) keys for each locking type coverplate.

PART 2 – NOT USED

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall thoroughly examine site conditions for acceptance of wiring device installation to verify conformance with manufacturer and specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.02 PREPARATION

- A. Coordinate device heights in vending, kitchen and utility areas with benches and counters.
- B. Coordinate switch-mounting location with Architectural details. Unless otherwise noted, locate switches on latch side of door.

3.03 INSTALLATION

- A. Install wiring devices in accordance with manufacturer's written instructions, as shown on the drawings and as specified herein.
- B. Install devices with the vertical centerline plumb and with all edges of the device flush against the adjacent wall surfaces.
- C. Mount switches at 42 inches above finished floor unless otherwise noted.
- D. Mount receptacles vertically with the centerline 15 inches above finished floor and with grounding slot at bottom.
- E. Mount receptacles vertically when mounting above counters.
- F. Mount GFCI receptacles above counters in bathrooms and at counters within 6'-0" of sinks, whether indicated as GFCI type or not.
- G. Derate ganged dimmer switches as instructed by manufacturer. Do not use common neutrals in dimmer circuits.
- H. Provide coverplates for all outlet boxes, switches, receptacles, etc.
- I. Install blank coverplates on all outlet boxes in which no device is required or installed.
- J. Provide coverplates that completely cover wall opening and seat against wall.

3.04 OCCUPANCY SENSOR SWITCHES

- A. Set time delays in sensors in accordance with District's directions.
- B. Where substituted occupancy sensors are used, it shall be the responsibility of the contractor to place sensors in the proper place and with proper alignment to cover to all the area intended in the contract documents.
- C. Provide one power pack with each ceiling mounted occupancy sensor, whether shown or not on plans, unless wiring details or plans indicate otherwise.
- D. Where drawings indicate ceiling mounted slave units, provide 3 #14 in 1/2" conduit from power pack to slave unit and connect so that input from either master or slave sensor will turn lights on.
- E. Install wall mounted devices with the vertical centerline plumb and all edges of device flush against adjacent wall surfaces. Mount devices at 42 inches above finished floor unless otherwise noted.

3.05 FLOOR MOUNTED SERVICE BOXES

- A. Installation: Install floor boxes to be level or within 1/16" below screed line.
 - 1. Make conduit connections and anchor box to sub-flooring.
- B. Coordination: Contractor shall mark the location of all floor boxes with paint prior to installation or core drilling for review and approval by Architect.

3.06 FIELD QUALITY CONTROL

- A. Electrical testing:
 - 1. Test proper polarity of all receptacles.
 - 2. Test ground continuity of all wiring devices.
 - 3. Test ground fault interrupting device operation.
- B. Visual and mechanical inspection:

1. Check proper operation of all switches.
2. Visually inspect and replace damaged or defective devices.

3.07 CLEANING

- A. Clean interior of all boxes from dirt and paint prior to installation of devices.
- B. Clean wiring devices and coverplates from dirt and paint over spray.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following individually mounted, enclosed switches and circuit breakers:
 - 1. Fusible switches – Heavy duty.
 - 2. Nonfusible switches – Heavy duty.
 - 3. Molded-case circuit breakers.
 - 4. Molded-case switches.
 - 5. Enclosures.

1.03 DEFINITIONS

- A. GD: General duty.
- B. GFCI: Ground-fault circuit interrupter.
- C. HD: Heavy duty.
- D. RMS: Root mean square.
- E. SPDT: Single pole, double throw.

1.04 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
 - 1. Enclosure types and details for types other than NEMA 250, Type 1.
 - 2. Current and voltage ratings.
 - 3. Short-circuit current rating.
 - 4. UL listing for series rating of installed devices.
 - 5. Features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Manufacturer Seismic Qualification Certification: Submit certification that enclosed switches and circuit breakers, accessories, and components will withstand seismic forces defined in Division 26 Section "Electrical Supports and Seismic Restraints." Include the following:
 - 1. Basis of Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
 - b. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- D. Qualification Data: For testing agency.
- E. Field quality-control test reports including the following:
1. Test procedures used.
 2. Test results that comply with requirements.
 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- F. Manufacturer's field service report.
- G. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Closeout Procedures, Operation and Maintenance Data," include the following:
1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
 2. Time-current curves, including selectable ranges for each type of circuit breaker.

1.05 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.
- D. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions, unless otherwise indicated:
1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
 2. Altitude: Not exceeding 6600 feet.

1.07 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with other construction, including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.08 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Spares: For the following:
 - a. Potential Transformer Fuses: 6.
 - b. Control-Power Fuses: 6.
 - c. Fuses and Fusible Devices for Fused Circuit Breakers: 12.
 - d. Fuses for Fusible Switches: 6.
 - 2. Spare Indicating Lights: Six of each type installed.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.02 FUSIBLE AND NONFUSIBLE SWITCHES – HEAVY DUTY

- A. Manufacturers:
 - 1. Eaton Corporation.
 - 2. General Electric Co.; Electrical Distribution & Control Division.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D/Group Schneider.
- B. Fusible Switch, 600A and Smaller: NEMA KS 1, Type GD, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Nonfusible Switch, 600A and Smaller: NEMA KS 1, Type GD, lockable handle with ept two padlocks, and interlocked with cover in closed position.
- D. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded, and bonded; and labeled for copper and aluminum neutral conductors.
 - 3. Auxiliary Contact Kit: Auxiliary set of contacts arranged to open before switch blades open.

2.03 MOLDED-CASE CIRCUIT BREAKERS AND SWITCHES

- A. Manufacturers:
 - 1. Eaton Corporation.
 - 2. General Electric Co.; Electrical Distribution & Control Division.
 - 3. Moeller Electric Corporation.
 - 4. Siemens Energy & Automation, Inc.
 - 5. Square D/Group Schneider.
- B. Molded-Case Circuit Breaker: NEMA AB 1, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 - 3. Electronic Trip-Unit Circuit Breakers: RMS sensing; field-replaceable rating plug; with the following field-adjustable settings:
 - a. Instantaneous trip.
 - b. Long- and short-time pickup levels.
 - c. Long- and short-time time adjustments.
 - d. Ground-fault pickup level, time delay, and I^2t response.
 - 4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller and let-through ratings less than NEMA FU 1, RK-5.
 - 5. Integrally Fused Circuit Breakers: Thermal-magnetic trip element with integral limiter-style fuse listed for use with circuit breaker and trip activation on fuse opening or on opening of fuse compartment door.
 - 6. GFCI Circuit Breakers: Single- and two-pole configurations with 5-mA trip sensitivity.
- C. Molded-Case Circuit-Breaker Features and Accessories:
 - 1. Standard frame sizes, trip ratings, and number of poles.
 - 2. Lugs: Mechanical style with compression lug kits suitable for number, size, trip ratings, and conductor material.
 - 3. Application Listing: Type SWD for switching fluorescent lighting loads; Type HACR for heating, air-conditioning, and refrigerating equipment.
 - 4. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
- D. Molded-Case Switches: Molded-case circuit breaker with fixed, high-set instantaneous trip only, and short-circuit withstand rating equal to equivalent breaker frame size interrupting rating.
- E. Molded-Case Switch Accessories:
 - 1. Lugs: Mechanical style suitable for number, size, trip ratings, and material of conductors.
 - 2. Application Listing: Type HACR for heating, air-conditioning, and refrigerating equipment.
 - 3. Key Interlock Kit: Externally mounted to prohibit operation; key shall be removable only when switch is in off position.

2.04 ENCLOSURES

- A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.
 - 1. Outdoor Locations: NEMA 250, Type 3R.
 - 2. Kitchen Areas: NEMA 250, Type 4X, stainless steel.
 - 3. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.

4. Hazardous Areas Indicated on Drawings: NEMA 250, Type 7C.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 CONCRETE BASES

- A. Coordinate size and location of concrete bases. Verify structural requirements with structural engineer.
- B. Concrete base is specified in Division 26 Section "Electrical Supports and Seismic Restraints," and concrete materials and installation requirements are specified in Division 3.

3.03 INSTALLATION

- A. Comply with applicable portions of NECA 1, NEMA PB 1.1, and NEMA PB 2.1 for installation of enclosed switches and circuit breakers.
- B. Mount individual wall-mounting switches and circuit breakers with tops at uniform height, unless otherwise indicated. Anchor floor-mounting switches to concrete base.
- C. Comply with mounting and anchoring requirements specified in Division 26 Section "Electrical Supports and Seismic Restraints."
- D. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

3.04 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 26 Section "Electrical Identification."
- B. Enclosure Nameplates: Label each enclosure with engraved metal or laminated-plastic nameplate as specified in Division 26 Section "Electrical Identification."

3.05 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.
- B. Prepare for acceptance testing as follows:
 - 1. Inspect mechanical and electrical connections.
 - 2. Verify switch and relay type and labeling verification.
 - 3. Verify rating of installed fuses.
 - 4. Inspect proper installation of type, size, quantity, and arrangement of mounting or anchorage devices complying with manufacturer's certification.
- C. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

- D. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:
- E. Perform the following field tests and inspections and prepare test reports:
 - 1. Test mounting and anchorage devices according to requirements in Division 26 Section "Electrical Supports and Seismic Restraints."
 - 2. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
 - 3. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 4. Infrared Scanning:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Open or remove doors or panels so connections are accessible to portable scanner.
 - b. Follow-Up Infrared Scanning: Perform an additional follow-up infrared scan of each unit 11 months after date of Substantial Completion.
 - c. Instruments, Equipment and Reports:
 - d. Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - e. Prepare a certified report that identifies enclosed switches and circuit breakers included and describes scanning results. Include notation of deficiencies detected, remedial action taken and observations after remedial action.

3.06 ADJUSTING

- A. Set field-adjustable switches and circuit-breaker trip ranges.

3.07 CLEANING

- A. On completion of installation, vacuum dirt and debris from interiors; do not use compressed air to assist in cleaning.
- B. Inspect exposed surfaces and repair damaged finishes.

END OF SECTION

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. This section specifies the furnishing, installation, and connection of the interior lighting systems. The terms "lighting fixture", "fixture", and "luminaire" are used interchangeably.

1.02 RELATED WORK

- A. Section 26 05 00, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General requirements that apply to more than one section of Division 26.
- B. Section 26 12 00, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES: Cables and wiring.
- C. Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS: Requirements for personnel safety and to provide a low impedance path to ground for possible ground fault currents.
- D. Section 26 27 26, WIRING DEVICES: Wiring devices used for control of the lighting systems.

1.03 QUALITY ASSURANCE

- A. Quality assurance shall be in accordance with Paragraph, QUALIFICATIONS (PRODUCTS AND SERVICES), in Section 26 05 00, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.

1.04 SUBMITTALS

- A. Submit in accordance with Paragraph, SUBMITTALS, in Section 26 05 00, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, and the following requirements:
 - 1. Product Data: For each type of lighting fixture (luminaire) designated on the LIGHTING FIXTURE SCHEDULE, arranged in order of fixture designation, submit the following information:
 - a. Material and construction details include information on housing, optics system and lens/diffuser.
 - b. Physical dimensions and description.
 - c. Wiring schematic and connection diagram.
 - d. Installation details.
 - e. Energy efficiency data.
 - f. Photometric data based on laboratory tests complying with the Illuminating Engineering Society North America (IESNA) Lighting Measurements, testing and calculation guides.
 - g. Lamp data including lumen output (initial and mean), color rendering index (CRI), rated life (hours) and color temperature (degrees Kelvin).
 - h. LED lighting fixtures including luminaire input voltage, total input wattage, lumens, color temperature (degrees Kelvin), CRI, lamp life (measured in accordance with IESNA standards), THD, driver life, and driver type.
 - 2. Manuals:
 - a. Submit, simultaneously with the shop drawings companion copies of complete maintenance and operating manuals including technical data sheets, and information for ordering replacement parts.
 - b. Two weeks prior to the final inspection, submit four copies of the final updated maintenance and operating manuals, including any changes, to the Architect / Engineer
 - 3. Certifications:
 - a. Two weeks prior to final inspection, submit four copies of the following certifications to

the Architect / Engineer:

- 1) Certification by the Contractor that the equipment has been properly installed, adjusted, and tested.

1.05 APPLICABLE PUBLICATIONS

- A. Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.
- B. American Society for Testing and Materials (ASTM):
M-13 Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings
- C. Environmental Protection Agency (EPA):
40 CFR, Part 261 Identification and Listing of Hazardous Waste
- D. Federal Communications Commission (FCC):
47 CFR, Part 15 Radio Frequency Devices
47 CFR, Part 18 Industrial, Scientific, and Medical Equipment
- E. Institute of Electrical and Electronic Engineers (IEEE):
C62.41.1-02 Guide on the Surge Environment in Low Voltage (1000V and less) AC Power Circuits
- F. Illuminating Engineering Society North America (IESNA):
LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products
LM-80-15 Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays, and Modules
LM-82-12 Characterization of LED Light Engines and LED Lamps for Electrical and Photometric Properties as a Function of Temperature
- G. National Electrical Manufacturer's Association (NEMA):
SSL 1-10 Electronic Drivers for LED Devices, Arrays, or Systems
- H. National Fire Protection Association (NFPA):
70-17 National Electrical Code (NEC)
101-15 Life Safety Code
- I. Underwriter Laboratories, Inc. (UL):
496-08 Safety Lampholders
924-16 Emergency Lighting and Power Equipment
1574-04.....Standard for Track Lighting Systems
1598-08 Luminaires
2108-15.....Standard for Low-Voltage Lighting Systems
8750-15.....Light Emitting Diode (LED) Light Sources for Use in Lighting Products

PART 2 - PRODUCTS

2.01 LIGHTING FIXTURES

- A. Shall be in accordance with ASTM, NEMA, NFPA, UL, as shown on drawings, and as specified.
- B. Sheet Metal:
 1. Shall be formed to prevent warping and sagging. Housing, trim and lens frame shall be true, straight (unless intentionally curved) and parallel to each other as designed.
 2. Wireways and fittings shall be free of burrs and sharp edges and shall accommodate internal and branch circuit wiring without damage to the wiring.
 3. When installed, any exposed fixture housing surface, trim frame, door frame and lens frame shall be free of light leaks; lens doors shall close in a light tight manner.
 4. Hinged door closure frames shall operate smoothly without binding when the fixture is in the installed position, latches shall function easily by finger action without the use of tools.
- C. Recessed fixtures mounted in an insulated ceiling shall be listed for use in insulated ceilings.
- D. Mechanical Safety: Lighting fixture closures (lens doors, trim frame, hinged housings, etc.) shall be

retained in a secure manner by captive screws, chains, captive hinges or fasteners such that they cannot be accidentally dislodged during normal operation or routine maintenance.

E. Metal Finishes:

1. The manufacturer shall apply standard finish (unless otherwise specified) over a corrosion resistant primer, after cleaning to free the metal surfaces of rust, grease, dirt and other deposits. Edges of pre-finished sheet metal exposed during forming, stamping or shearing processes shall be finished in a similar corrosion resistant manner to match the adjacent surface(s). Fixture finish shall be free of stains or evidence of rusting, blistering, or flaking, and shall be applied after fabrication.
2. Interior light reflecting finishes shall be white with a minimum of 85 percent reflectance, except where otherwise shown on the drawing.
3. Exterior finishes shall be as shown on the drawings.

F. Lighting fixtures shall have a specific means for grounding metallic wireways and housings to an equipment grounding conductor.

2.04 EMERGENCY LIGHTING UNIT

A. Complete, self-contained unit with batteries, battery charger, one or more local or remote lamp heads with lamps, under-voltage relay, and test switch. Comply with UL 924.

1. Enclosure: Shall be //impact-resistant thermoplastic// //cast aluminum//, which will protect components from dust, moisture, and oxidizing fumes from the battery. Enclosure shall be suitable for the environmental conditions in which installed.
2. Lamp Heads: Horizontally and vertically adjustable, mounted on the face of the unit, except where otherwise indicated.
3. Lamps: Shall be sealed-beam MR-16 halogenated not less than 6 watts at the specified DC voltage, or LED module rated as noted on the LIGHTING FIXTURE SCHEDULE shown on the drawing.
4. Battery: Shall be maintenance-free nickel-cadmium. Minimum normal life shall be 10 years.
5. Battery Charger: Dry-type full-wave rectifier with charging rates to maintain the battery in fully-charged condition during normal operation, and to automatically recharge the battery within 12 hours following a 1-1/2 hour continuous discharge.
6. Integral Self-Test/Self-Diagnostic: Automatically initiates test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing indicator.

2.05 LED EXIT LIGHT FIXTURES

- A. Exit light fixtures shall meet applicable requirements of NFPA, and UL.
- B. Housing and Canopy shall be made of die-cast aluminum.
- C. Door frame shall be cast or extruded aluminum, and hinged with latch.
- D. Finish shall be satin or fine-grain brushed aluminum.
- E. There shall be no radioactive material used in the fixtures.
- F. Fixtures:

1. Electric LED exit light: maximum fixture wattage shall be 1 watt or less. Maintenance free Nickel-Cadmium battery with self-test/self-diagnostic features shall be provided integral with the unit.
2. Inscription panels shall be cast or stamped aluminum a minimum of 2.25mm(0.090 inch) thick, stenciled with 150mm(6 inches) high letters, baked with green color stable plastic or fiberglass. Lamps shall be luminous Light Emitting Diodes (LED) mounted in center of letters on green color stable plastic or fiberglass. The LED shall be rated minimum 20 years life.
3. Double-Faced Fixtures: Provide double-faced fixtures where required or as shown on drawings.
4. Directional Arrows: Provide directional arrows as part of the inscription panel where required or as shown on drawings. Directional arrows shall be the "chevron-type" of similar size and width as the letters and meet the requirements of NFPA 101.

G. Voltages: Refer to Lighting Fixture Schedule.

2.06 LED LIGHT FIXTURES

A. General:

1. LED light fixtures shall be in accordance with IES, NFPA, UL, as shown on the drawings, and as specified.
2. LED light fixtures shall be Reduction of Hazardous Substances (RoHS)-compliant.
3. LED drivers shall include the following features unless otherwise indicated:
 - a. Minimum efficiency: 85% at full load.
 - b. Operating Ambient Temperature range: -20° C. (-4° F.) to 50° C. (122° F.)
 - c. Input Voltage: 120 - 277V (±10%) at 60 Hz.
 - d. Integral short circuit, open circuit, and overload protection.
 - e. Power Factor: ≥ 0.95
 - f. Total Harmonic Distortion: ≤ 20%.
 - g. Comply with FCC 47 CFR Part 15.
 - h. Drivers shall be accessible and serviceable from below the ceiling.
 - i. Where noted on the LIGHTING FIXTURE SCHEDULE or as shown on the drawings, provide with 0-10V dimming.
4. LED modules shall include the following features unless otherwise indicated:
 - a. Comply with IES LM-79 and LM-80 requirements.
 - b. Minimum CRI 80 and color temperature 3500° K unless otherwise specified in the lighting fixture schedule
 - c. Minimum Rated Life: 50,000 hours per IES L70.
 - d. Light output lumens as indicated in the LIGHTING FIXTURE SCHEDULE.
 - e. Modules and optic system/reflectors/lens shall be accessible and serviceable from below the ceiling.

B. LED Downlights:

1. Housing, LED driver, and LED module shall be compatible and exchangeable if these components are from different manufacturers.

C. LED Troffers:

1. Housing, LED driver, and LED module shall be compatible and exchangeable if these components are from different manufacturers.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall be in accordance with the NEC, manufacturer's instructions, and as shown on the drawings or specified.
- B. Align, mount and level the lighting fixtures uniformly.
- C. Lighting Fixture Supports:
 1. Shall provide support for all of the fixtures. Supports may be anchored to channels of the ceiling construction, to the structural slab or to structural members within a partition, or above a suspended ceiling.
 2. Shall maintain the fixture positions after cleaning and relamping.
 3. Shall support the lighting fixtures without causing the ceiling or partition to deflect.
 4. Hardware for recessed fixtures:
 - a. Where the suspended ceiling system is supported at the four corners of the fixture opening, hardware devices shall clamp the fixture to the ceiling system structural members, or plaster frame at not less than four points in such a manner as to resist spreading of the support members and safely lock the fixture into the ceiling system.
 - b. Where the suspended ceiling system is not supported at the four corners of the fixture opening, hardware devices shall independently support the fixture from the building structure at four points.
 5. Hardware for surface mounting LED fixtures to suspended ceilings:

- a. In addition to being secured to any required outlet box, fixtures shall be bolted to a grid ceiling system at four points spaced near the corners of each fixture. The bolts shall be not less than 6mm (1/4 inch) secured to channel members attached to and spanning the tops of the ceiling structural grid members. Non-turning studs may be attached to the ceiling structural grid members or spanning channels by special clips designed for the purpose, provided they lock into place and require simple tools for removal.
 - b. In addition to being secured to any required outlet box, fixtures shall be bolted to ceiling structural members at four points spaced near the corners of each fixture. Pre-positioned 6mm (1/4 inch) studs or threaded plaster inserts secured to ceiling structural members shall be used to bolt the fixtures to the ceiling. In lieu of the above, 6mm (1/4 inch) toggle bolts may be used on new or existing ceiling provided the plaster and lath can safely support the fixtures without sagging or cracking.
6. Hardware for recessed lighting fixtures:
- a. All fixture mounting devices connecting fixtures to the ceiling system or building structure shall have a capacity for a horizontal force of 100 percent of the fixture weight and a vertical force of 400 percent of the fixture weight.
 - b. Mounting devices shall clamp the fixture to the ceiling system structure (main grid runners or fixture framing cross runners) at four points in such a manner as to resist spreading of these supporting members. Each support point device shall utilize a screw or approved hardware to "lock" the fixture housing to the ceiling system, restraining the fixture from movement in any direction relative to the ceiling. The screw (size No. 10 minimum) or approved hardware shall pass through the ceiling member (T-bar, channel or spline), or it may extend over the inside of the flange of the channel (or spline) that faces away from the fixture, in a manner that prevents any fixture movement.
 - c. In addition to the above, the following is required for fixtures exceeding 9kg (20 pounds) in weight.
 - 1) Where fixtures mounted in ASTM Standard C635-69 "Intermediate" and "Heavy Duty" ceilings and weigh between 9kg and 25kg (20 pounds and 56 pounds) provide two 12-gauge safety hangers hung slack between diagonal corners of the fixture and the building structure.
 - d. Where ceiling cross runners are installed for support of lighting fixtures, they must have a carrying capacity equal to that of the main ceiling runners and be rigidly secured to the main runners.
7. Surface mounted lighting fixtures:
- a. Fixtures shall be bolted against the ceiling independent of the outlet box at four points spaced near the corners of each unit. The bolts (or stud-clips) shall be minimum 6mm (1/4 inch) bolt, secured to main ceiling runners and/or secured to cross runners. Non-turning studs may be attached to the main ceiling runners and cross runners with special non-friction clip devices designed for the purpose, provided they bolt through the runner, or are also secured to the building structure by 12-gauge safety hangers. Studs or bolts securing fixtures weighing in excess of 25kg (56 pounds) shall be supported directly from the building structure.
 - b. Where ceiling cross runners are installed for support of lighting fixtures they must have a carrying capacity equal to that of the main ceiling runners and be rigidly secured to the main runners.
 - c. Fixtures less than 6.8kg (15 pounds) in weight and occupying less than 600mm x 600mm (2 square feet) of ceiling area may, (when designed for the purpose) be supported directly from the outlet box when all the following conditions are met.
 - 1) Screws attaching the fixture to the outlet box pass through round holes (not key-hole slots) in the fixture body.
 - 2) The outlet box is attached to a main ceiling runner (or cross runner) with approved hardware.
 - 3) The outlet box is supported vertically from the building structure.
 - d. Fixtures mounted in open construction shall be secured directly to the building

structure with approved bolting and clamping devices.

8. Single or double pendant-mounted lighting fixtures:

a. Each stem shall be supported by an approved outlet box, mounted swivel joint and canopy which holds the stem captive and provides spring load (or approved equivalent) dampening of fixture oscillations. Outlet box shall be supported vertically from the building structure.

9. Outlet boxes for support of lighting fixtures (where permitted) shall be secured directly to the building structure with approved devices or supported vertically in a hung ceiling from the building structure with a nine gauge wire hanger, and be secured by an approved device to a main ceiling runner or cross runner to prevent any horizontal movement relative to the ceiling.

D. Furnish and install the specified lamps for all lighting fixtures installed under this project.

E. Coordinate between the electrical and ceiling trades to ascertain that approved lighting fixtures are furnished in the proper sizes and installed with the proper devices (hangers, clips, trim frames, flanges), to match the ceiling system being installed.

F. Bond lighting fixtures and metal accessories to the grounding system as specified in Section 26 06 00, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS.

G. Burn-in all lamps that require specific aging period to operate properly. Burn-in period to be 40 hours minimum, unless a lesser period is specifically recommended by lamp manufacturer.

3.02 ACCEPTANCE CHECKS AND TESTS

A. Verify operation after installing luminaires and energizing circuits.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- B. Section Includes:
 - 1. Exterior luminaires with led lamps and driver.
- C. Related Sections:
 - 1. 26 51 00 "Interior Lighting" for exterior luminaires normally mounted on exterior surfaces of buildings.

1.03 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color-rendering index.
- C. HID: High-intensity discharge.
- D. LER: Luminaire efficacy rating.
- E. Luminaire: Complete lighting fixture, including ballast housing if provided.

1.04 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For luminaires to include in emergency, operation, and maintenance manuals.

1.05 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish at least one of each type.
 - 2. Glass and Plastic Lenses, Covers, and Other Optical Parts: two of each type and rating installed. Furnish at least one of each type.
 - 3. Driver: two of each type and rating installed. Furnish at least one of each type.
 - 4. Globes and Guards: two of each type and rating installed. Furnish at least one of each type.

1.06 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with IEEE C2, "National Electrical Safety Code."

- C. Comply with NFPA 70.

1.07 WARRANTY

- A. Warranty Period for Luminaires: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide product indicated on Drawings

2.02 GENERAL REQUIREMENTS FOR LUMINAIRES

- A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.
- B. Lateral Light Distribution Patterns: Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Corrosion-resistant aluminum unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.
- G. Exposed Hardware Material: Stainless steel.
- H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- I. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.
- J. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
- K. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.
- L. Luminaire Finish: Manufacturer's paint applied to factory-assembled and-tested luminaire before shipping. Colors shall be selected by Architect

- M. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
 - 2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
 - a. Color: As selected by Architect from manufacturer's full range.
- N. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps and ballasts. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.
 - 1. Label shall include the following lamp and ballast characteristics:
 - a. "USES ONLY" and include specific lamp type.
 - b. Lamp type, wattage, bulb type and coating.
 - c. CCT and CRI for all luminaires.

2.03 DRIVER FOR LED LAMPS

- A. Comply with ANSI C82.4 and UL 1029 and capable of open-circuit operation without reduction of average lamp life. Include the following features unless otherwise indicated:
- B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.
- C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
 - 1. Materials: Shall not cause galvanic action at contact points.

3.01 LUMINAIRE INSTALLATION

- D. Install lamps in each luminaire.
- E. Fasten luminaire to indicated structural supports.
 - 1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- F. Adjust luminaires that require field adjustment or aiming

3.02 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.
 - 1. Verify operation of photoelectric controls.
- C. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.03 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaire lowering devices.

END OF SECTION