

Piedmont Unified School District
760 Magnolia Avenue
Piedmont, CA 94611

November 15, 2019

**REQUEST FOR PROPOSALS FOR
SOLAR POWER PURCHASE AGREEMENT INCLUDING
THE INSTALLATION, OPERATION, AND MAINTENANCE OF A PHOTOVOLTAIC SYSTEM**

The Piedmont Unified School District (“District”) is requesting proposals (“Proposal(s)”) from qualified entities (“Firm(s)”) to provide a Power Purchase Agreement (“PPA”) for installation of a cost-effective solar photovoltaic (PV) electric generating system (“Solar PV System”) covering two new buildings at Piedmont High School as described herein, preferably with battery storage and power conversion to efficiently manage energy supply and demand.

Submittal. Interested Firms are invited to submit their Proposal as described below to:

Piedmont Unified School District
760 Magnolia Avenue, Piedmont, CA 94611
Attn: Trish Culbert at tculbert@piedmont.k12.ca.us or
Michael Brady at mbrady@piedmont.k12.ca.us

Proposals Deadline. All Proposals must be received on or before **December 6, 2019** not later than **12:00 PM**.

Questions. Questions regarding this RFP must be in writing and may be directed to **Trish Culbert** at tculbert@piedmont.k12.ca.us or **Michael Brady** at mbrady@piedmont.k12.ca.us. Written questions are due by November 22 at noon. Responses will be provided no later than November 25 at 5:00 pm. Firms are directed to not contact any other person with inquiries regarding this RFP.

Notice. This is not a request for bids or an offer by the District to contract with any Firm responding to this RFP. The District reserves the right to reject any and all Proposals. All materials submitted to the District in response to this RFP shall remain the property of the District.

1. BACKGROUND

The District is committed to creating a more energy efficient, modern and sustainable community while also reducing the annual electricity expenditure of the District. The District is interested in generating electric power with an integrated solar system that will serve two new buildings at Piedmont High School, a Science, Technology, Engineering, Art, and Mathematics (STEAM) building and a theater more fully described in **Attachment 1** (Site Overview) and **Attachment 2** (LTM Peak and Off-Peak Consumption Schedule). The District is interested in battery storage and power conversion to efficiently manage energy supply and demand and enhance the energy resiliency of the buildings, and the review of this storage enhancement will be subject to the cost of the PPA.

School Site	Address
Piedmont High School (PHS) STEAM	800 Magnolia Ave., Piedmont, CA 94611
Piedmont High School (PHS) Theater	800 Magnolia Ave., Piedmont, CA 94611

Table 1-Project Sites

The District is authorized to solicit proposals from qualified persons and to award a contract to a Firm on a finding that the anticipated cost of the contract is less than the anticipated savings from the contract. To provide the best value to the District, the District is seeking to enter into a power purchase agreement (“PPA”) with the Firm, whereby the District expends no funds to install the solar facilities, but pays the Firm for power from Firm-owned solar facilities located on the above STEAM and theater buildings.

Responses to this RFP (“Response(s)” or “Proposal(s)”) must be concise and address the District’s goals and be formatted as outlined in Section 2. Innovative and creative solutions are encouraged. All costs for proposals are entirely the responsibility of the proposing firm and shall not be charged to the District.

1.1. Procurement Timetable

The District reserves the right to change these dates and times:

Milestone Task	Anticipated Dates
Issuance of RFP	November 15, 2019
Request for Information Deadline	November 22, 2019 at noon
Responses to Requests for Information	November 25, 2019 at 5pm
RFP Proposal Due Date	December 6, 2019
Interviews	December 9-10, 2019
Preliminary Notification of Award/LOI	December 12, 2019
Board Approval/NTP	December 11, 2019

PPA signature and closing date	TBD
--------------------------------	-----

Table 2- Procurement Timetable

1.2. Project Schedule and Considerations

- 1.2.1. The project installation will have to occur in phases as two new buildings (STEAM and Theatre) are being constructed and expected to open August 2020 and Fall of 2021, respectively.
- 1.2.2. The solar system for these buildings and related infrastructure has been fully designed, engineered, and approved by Division of the State Architect (“DSA”), and is not subject to change other than the possible addition of battery storage or removal of modules. All infrastructure for this system as designed is being constructed and installed by Overaa Construction. See Attachment 5 for information about the scope of the work to be performed by Overaa.
- 1.2.3. The remaining District facilities are not included in this RFP and will be addressed in a separate, Phase II RFP. Those other solar systems will need to be designed, engineered, and approved by DSA in addition to securing permits and interconnection agreement.
- 1.2.4. The design for the solar system for the STEAM and theatre Buildings utilizes LG modules as described in Attachments 3 and 6. The system design for these two buildings cannot be changed (other than the possible addition of battery storage or removal of modules) so Firms should price out the work using this design and approved equipment.

1.3. General Information

- 1.3.1. **General Services.** The District invites qualified Firms to submit a Response related to its ability to provide the Services, as more fully indicated herein. Firms must have extensive experience with the California Building Standards Code (California Code of Regulations, Title 24) and the incorporated and/or applicable provisions of the Uniform Building Code and the International Building Code, the Americans with Disabilities Act, and DSA. Firms must have extensive experience in the construction of public school facilities, working with public school district representatives, working with school facility related consultants, and establishing project scope, project budgets, and bidding procedures under both the Public Contract Code’s formal bidding process and under alternative construction delivery methods.
- 1.3.2. **Power Purchase Agreement.** The selected Firm will fund the Project and any agreement reached will conform to the framework for a PPA pursuant to the terms enclosed in the Contract as indicated in **Attachment 4** (“Contract”) attached hereto. The PPA meets California school district requirements and believes it is acceptable to financing parties. Comments on this are welcomed.
- 1.3.3. **Scope of Work.** The selected Firm must be willing and able to, in good faith, install, maintain, and operate the Project as described in the Contract and the Attachments herein.
- 1.3.4. **Attachments to this RFP:**
 - 1.3.4.1.Attachment 1 (Site Overview)
 - 1.3.4.2.Attachment 2 (LTM Peak and Off-Peak Consumption Schedule)

- 1.3.4.3.Attachment 3 (STEAM and Theatre Buildings Design and Projected Consumption)
- 1.3.4.4.Attachment 4 (Form of Contract)
- 1.3.4.5.Attachment 5 (PV Solar Cost Proposal Worksheet)
- 1.3.4.6.Attachment 6 (Supporting Documents)

2. SUBMITTAL PROCESS AND FORMAT

- 2.1. Submittal Process.** Responses to the RFP must be submitted in writing and signed by an authorized officer of the Firm. The District reserves the right to reject any Response as non-responsive, and not to contract with any Firm for the Services described herein. The District also reserves the right to request clarification and/or additional information from any Firm. The District makes no representation that participation in the RFP process will lead to an award of contract or any consideration whatsoever. The District shall in no event be responsible for the cost of preparing any Proposal. The District reserves and may exercise one or more of the following rights and options in its sole discretion with respect to this RFP to:
- 2.1.1. Supplement, amend or otherwise modify this RFP;
 - 2.1.2. Cancel this RFP with or without the substitution of another RFP;
 - 2.1.3. Issue additional or subsequent RFPs;
 - 2.1.4. Conduct investigations with respect to the qualifications of any Firm;
 - 2.1.5. Change any time for performance set forth in this RFP;
 - 2.1.6. Waive any non-material deviation from this RFP; and
 - 2.1.7. Negotiate bid pricing and conditions
- 2.2. Requests for Information (RFI(s))** regarding this RFP must be delivered in writing to directed to **Trish Culbert** at tculbert@piedmont.k12.ca.us or Michael Brady at mbrady@piedmont.k12.ca.us. no later than date and time stated in the Procurement Timetable. The District shall not be responsible for failure of any Firms to receive RFP addenda. All addenda the District issues shall become part of this RFP. Each Firm shall be responsible for ascertaining, prior to submitting a Proposal, that they have received all issued addenda. Responses to the questions received, along with all addenda to this RFP will be posted to the District’s website at www.measure1.org. It is the sole responsibility of each proposing Firm to access the addenda and any responses to questions from the website. If you are unable to access the website, please contact **Trish Culbert** at tculbert@piedmont.k12.ca.us or Michael Brady at mbrady@piedmont.k12.ca.us.
- 2.3. Communication Restriction.** Beginning with the date of issuance of this RFP and concluding on the date of execution of the Agreements contemplated herein, no person or entity submitting a response to this RFP, nor any person, officer, employee, consultant, agent, or representative of the same shall through any means contact any employee of the District, any Board of Education member, any consultant for the District, or any member of a District-appointed committee to engage in any discussion regarding (1) this RFP, (2) the selection process or (3) award of this contract. **Any such contact shall be grounds for the immediate disqualification of the submitting entity without consideration of its statement of qualifications.**
- 2.4. Conflict of Interest.** As part of its Proposal, the proposing entity must affirmatively state that there is no known conflict of interest or must disclose any potential conflict of interest involving any District employee, consultant, or member of the Board of Education. Subsequent discovery of an undisclosed actual conflict of interest shall be adequate grounds for the District to terminate the agreement for cause. By submitting a proposal, the submitting entity consents to termination for cause if an undisclosed actual conflict of interest is discovered. **Failure to include**

this statement shall be grounds for immediate disqualification of the submitting entity without consideration of its proposal.

- 2.5. Response Format.** Responses should be brief and concise but provide sufficient information for the District’s evaluation. Response shall not exceed fifty (50) pages, **including** exhibits, etc. Responses can be submitted by email and one hard copy bound individually, double-sided, tabbed, and organized in order and include all sections identified in this section. Contractors are encouraged to avoid standardized or boilerplate information and should include the following information:

- 2.5.1.** Cover Letter and Executive Summary
- 2.5.2.** Firm Information and Project Team
- 2.5.3.** Relevant Project Experience (Including Required Past Projects)
- 2.5.4.** Project Schedule
- 2.5.5.** Performance and Production Guarantee
- 2.5.6.** Added Value Options
- 2.5.7.** Environmental benefits (e.g., emissions impact)
- 2.5.8.** Educational Component
- 2.5.9.** Financing Plan
- 2.5.10.** Exceptions to RFP Documents
- 2.5.11.** Proposed Pricing and Terms including Fair Market Value (FMV) Buyout Options
- 2.5.12.** Proposal Checklist
- 2.5.13.** Failure to address all these requirements could result in a Response being considered non-responsive and therefore disqualified from consideration.

2.6. Cover Letter and Executive Summary

- 2.6.1.** Cover letter/Letter of Transmittal. Include a transmittal letter signed by a party authorized to sign binding agreements for the project clearly indicating that the Firm has carefully read all the provisions in the RFP.
- 2.6.2.** Executive Summary (two-page maximum). The Executive Summary includes the following components:
 - 2.6.2.1.** Summarize main points of the Proposal, including annual system production, percentage offset of kWh usage, performance/production guarantees, pricing and estimated savings (annual and life of system); FMV buyout options and any value-added components.
 - 2.6.2.2.** Highlight omissions, additions (battery storage), or alternates in the Proposal.
 - 2.6.2.3.** Indicate that the Firm has carefully read all the provisions in the RFP.
 - 2.6.2.4.** Verify that financing for the proposed PPA terms is secured or will be secured before contract execution.
 - 2.6.2.5.** Identify a team leader for the entire Proposal, including full contact information.
 - 2.6.2.6.** Provide full contact information for each business entity or firm involved in the Proposal and their role in the project (i.e., installation, equipment supply by component, operations and maintenance, monitoring and verification).
 - 2.6.2.7.** Include a list of all sub-contractors that will be used on the project.

2.6.3. Firm Information and Project Team

2.6.3.1. Firm Information

2.6.3.1.1. Size, number of employees;

2.6.3.1.2. Contractor, architectural and professional engineering licenses and/or certifications held by your company or its full-time employees;

2.6.3.1.3. Financial performance. If public, provide a website link to your audited annual investment reports. If private, attach audited financial statements for the past two (2) years;

2.6.3.1.4. Legal. Has your firm or have any of the executive officers of your firm been a party to a lawsuit involving the performance of any equipment it has installed? If so, please include a summary of the issues and the status of any lawsuit.

2.6.4. Project Team. Describe the specific experience of all identified key personnel with respect to projects the size, scope and complexity of the project described in this RFP.

2.6.5. Insurance and Bonding. Submit a certificate of insurance with your firm's proposal. Additionally, please provide the following information on the insurance your firm carries:

2.6.5.1. Commercial General Liability Limits (per occurrence and aggregate)

2.6.5.2. Commercial Automobile Liability Limits (per occurrence and aggregate)

2.6.5.3. Professional Liability Limits (per occurrence and aggregate)

2.6.5.4. Employer's Liability Limits (per occurrence and aggregate)

2.6.5.5. Employment Practices Liability Limits (per occurrence and aggregate)

2.6.5.6. Product insured for damage during installation/Builders' Risk Limits

2.6.5.7. Company's bonding capacity

All of Firm's insurance shall be with insurance companies with an A.M. Best rating of no less than XI. Firm's surety that will be on its performance and payment bonds must be a surety admitted to provide bonds in California.

2.6.6. Certification of nondiscrimination. Each Firm must certify that it does not discriminate in its employment with regard to race, color, religion, sex, or national origin; that it is in compliance with all Federal, State, and local directives and executive orders regarding nondiscrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

2.6.7. For Firms teaming with subcontractors:

2.6.7.1. Each responding Firm shall select their proposed subcontractors based on their own criteria. Firms shall identify all major subcontractors or methods for identification and selection of proposed subcontractors as part of their proposal submission.

2.6.7.2. The District reserves the right to require that specific subcontractor(s) that intend to perform under certain license classification(s) and intend to bid as first-tier subcontractors to the Contractor be required to prequalify with the District by completing the District's prequalification questionnaire.

2.6.7.3.The District reserves the right to approve subcontractors proposed for any projects that may be awarded. Subcontractors do not need to complete all the Attachments in this RFP.

2.6.8. Conflict of interest statement: See requirements of “Submittal Process” above.

2.7. Relevant Project Experience. Provide a list of **ALL** relevant solar projects performed by the Contractor completed within the past five (5) years. Include all the relevant currently operating nonresidential grid-connected PV systems that your company installed and operates in California within the past five (5) years. Indicate if the customer/owner was a California public school district or community college. If so, describe your experience with the DSA. Limit response to no more than the twenty (20) **MOST RECENT** projects. Include the following information for each project:

2.7.1. Project Description and location

2.7.2. Total kW installed/system size (kWp rating)

2.7.3. Date operational

2.7.4. District/owner name with contact person’s name, email, address, phone number

2.7.5. Indicate the type of system (rooftop, ground mount, carport; fixed, tracking, etc.)

2.7.6. Name of PPA Provider (if applicable)

2.7.7. Utility Company/Territory

2.8. Required Past Projects. To be responsive, the 20 projects listed above must include the following minimum requirements:

2.8.1. At least two (2) of the projects must have each totaled at least 1.0 MW and be in current commercial operation;

2.8.2. At least two (2) of the projects must each have been for a California K-12 public school district and be solar PV installations of 1.0 MW or larger; and

2.8.3. At least two (2) of the projects must each have been carport PV installations.

2.9. Project Design

2.9.1. System

2.9.1.1.The system has been fully designed, engineered, and approved by DSA and may not be altered or amended other than the possible addition of battery storage or removal of modules. Firms are welcomed to submit comments if they feel the system is oversized. See the Attachments.

2.9.1.2. Describe any identified issues or challenges and how you would address and/or resolve them.

2.9.2. PV Modules must be as specified or otherwise approved by DSA. See Attachment 6.

2.9.3. Inverters must be as specified or otherwise approved by DSA. See Attachment 6.

2.9.4. Rationale for determining battery storage capacity (if included) should be provided.

2.10. Project Schedule

2.10.1. Submit an anticipated implementation schedule for the proposed system, indicating expected milestones, tasks, durations, and logic ties, that align with the planned

opening of these buildings. The STEAM building is expect to be completed in August 2020. The theater building is expected to be completed in the Fall of 2021.

2.10.2. Schedule shall minimally indicate, but not be limited to the following phases:

- 2.10.2.1.** Commencement of installation
- 2.10.2.2.** Completion
- 2.10.2.3.** Interconnection Agreement
- 2.10.2.4.** Permission to operate from the Utility
- 2.10.2.5.** Project Close-out

2.11. Performance and Production. Firms are required to complete production target and degradation rate information in **PV Solar Cost Proposal Worksheet (Attachment 5)** by specifying the following:

- 2.11.1.** Specify a year-1 target production in kWh
- 2.11.2.** Specify a degradation rate for the system production (not to exceed 0.8%/year)

The District will not pay for any unneeded or unused production over 100% of the first-year target production level, evaluated over a similar relevant period.

2.12. Environmental Benefits. GHG emissions eliminated plus equivalent trees planted or other metrics.

2.13. Added Value Options. Please provide any options your firm may provide to the District to enhance or add value to the project. Options could include a cost-benefit analysis of the following as applicable:

- 2.13.1. Battery storage.** The District has a strong preference for adding battery storage and this will be reflected in the scoring of Added Value Options.
- 2.13.2.** Electric Vehicle (EV) charging stations
- 2.13.3.** Off-grid solar workspace/ picnic area for student device charging on District campuses
- 2.13.4.** Educational/curricular components.

2.14. Exceptions to RFP Documents

2.14.1. Describe any exceptions to the RFP content, general expectations, specific requirements. For each exception, propose acceptable alternative language and/or provide rationale to support the exception. Exceptions that are contrary to District's best interests, do not meet the needs of our staff and students, or conflict with regulations related to public contracts and procurement will not be accepted by District and may be cause for rejection of the Proposal.

2.14.2. If a Firm has any comments or objections to the Contract attached hereto as **Attachment 4** to this RFP, including any comments or objections to the exhibits attached to the Contract, it shall provide those comments or objections in its Proposal or the District may deem Firm's Proposal to be non-responsive. **PLEASE NOTE: The District will not consider any changes to the Contract if they are not submitted at or before the time the Proposal is due.**

2.15. Proposed Pricing and Terms. The terms, conditions, and pricing provided in submitted Proposals will be considered and Firm's failure to honor Proposal terms, conditions, or pricing in any forthcoming agreement with the District may result in cancellation or the termination of Firm's award.

2.15.1. Firms are required to submit pricing on the **PV Solar Cost Proposal Worksheet (Attachment 5)**. Cost Proposal must be filled out as part of the RFP. Firms are requested to propose pricing based on a power purchase option (the “PPA Pricing”) in addition to the other pricing information.

2.16. Pricing Inclusions:

2.16.1. Power Purchase Agreement specifications, as described in the Contract, but not limited to:

2.16.1.1.Terms: 25 years

2.16.1.2.With and without an annual PPA % escalator (under the discretion of the Firm to obtain the best financial benefit to the District)

2.16.1.3.Pricing must include an annual performance and production guarantee, with a reasonable degradation factor that matches the term of the offered PPA.

2.16.1.4.Includes option to purchase at various intervals, and with a proposal on the discount rate used to calculate the FMV.

2.16.1.4.1.Value-Add Options:

2.16.1.4.1.1. Firm shall state if it will include battery storage as a value-added option or if it is with the proposed PPA rate.

2.16.2. Solar Production Data. Firms shall submit the 8760 or 15-min. interval production data (in kW) in a tabbed Excel spreadsheet in the format as shown in the Solar PV Cost Proposal (**Attachment 5**). Additional 8760 data shall be submitted for system options utilizing solar and energy storage systems.

2.16.3. Other Project Inclusions and Assumptions:

2.16.3.1.Prevailing wage rates

2.16.3.1.1.Work hours: All pricing should be based on standard work hours of Monday – Friday 6:00 AM to 7:00 PM.

2.16.3.2.Project must not impact power quality. All costs associated with system upgrades necessary to avoid power quality issues are the responsibility of the PPA provider and not the District.

2.16.3.3.All costs associated with required distribution or service upgrades are the responsibility of the PPA provider and not the District.

2.16.3.4.The District requires security measures to be installed to limit the potential for theft and vandalism during and after construction of the systems. Costs associated with implementing and maintaining security measures will be borne by the PPA provider.

2.16.3.5.Array areas are shown in **Attachment 1**.

2.17. Confidential Information. All Proposals will become the property of the District and subject to the California Public Records Act, Government Code sections 6250, et seq. Those elements in a Proposal that are trade secrets as that term is defined in Civil Code section 3426.1(d) or otherwise exempt by law from disclosure and which are prominently marked as “TRADE SECRET,” “CONFIDENTIAL,” or “PROPRIETARY” may not be subject to disclosure. The District shall not be liable or responsible for the disclosure of any such records including, without limitation, those so marked if disclosure is deemed to be required by law or by an order of a Court. A Contractor that indiscriminately identifies all or most of its Proposal as exempt from disclosure without justification may be deemed non-responsive. In the event the District is

required to defend an action on a Public Records Act request for any of the contents of a Proposal marked "Confidential," "Proprietary," or "Trade Secret," the Contractor agrees, by submission of its Proposal, to defend and indemnify the District from all costs and expenses, including attorneys' fees, in any action or liability arising under the Public Records Act.

3. SELECTION CRITERIA

- 3.1. Proposal Evaluation Criteria.** The District has designated the following items as selection criteria for the successful Contractor to be reviewed by the Selection Committee.
- 3.2. Essential Criteria.** The Firm must satisfy these requirements or its Proposal will not be considered:
- 3.2.1. License.** Firm must hold a Class B Contractors License, which is current, valid, and in good standing with the California Contractor's State License Board. Firms or its subcontractor(s) must hold a C-10 and/or a C-46 Contractors License and be approved by the PV manufacturer to install the system.
 - 3.2.2. Insurance.** Firm must be insured with the coverages and limits indicated in the Contract attached hereto as **Attachment 4** to this RFP.
 - 3.2.3. Bonds.** Firm have bonding ability and capacity to provide a 100% payment bond and a 100% performance bond for the construction value of the Contract, as agreed to by the District.
 - 3.2.4. Pre-qualification.** Firm must prequalify through the District's pre-qualification process.
 - 3.2.5. Required Past Projects.** Firm must have completed the "Required Past Projects" identified in the RFP under "Relevant Project Experience"
- 3.3. Scored Criteria.** The Firm should satisfy these requirements as thoroughly and as highly as possible:
- 3.3.1. Proposal Completeness.** The degree to which the Firm has included all the information requested in this RFP in a clear and concise manner.
 - 3.3.2. Firm's Financial Information, Background, and Experience.** Information indicating the Firm's financial strength in terms of capital and liquid assets sufficient to successfully complete the Project described in this RFP, and the stability of the Firm in terms of number of years in existence, professional capabilities and photovoltaic systems construction experience. Firm's relevant solar PV project experience as listed herein above.
 - 3.3.3. All subcontractors must hold appropriate licenses.**
 - 3.3.4. Approach (Recommended Technical Solution and Ability to Meet Project Schedule).** The ability of the Firm to provide complete and quality technical documentation for the proposed system including preliminary module layouts and electrical diagrams. Systems should account for available space and site deficiencies and the Firm's ability to overcome these deficiencies while providing efficient electricity production. Proposals should include proposed orientation and tilt, site specific construction conditions, module and inverter types with proven track record. A monitoring system and plan should provide an interface to verify accurate billing and system performance.
 - 3.3.4.1.** The ability of the Firm to complete the Project in accordance with the District's Project Schedule. Project plan and schedule should account for RFP submittal requirements, complexity of Project and demonstrate methodology for management of multiple projects simultaneously. Please provide schedule or Gantt chart outlining a tentative schedule.

- 3.3.5. Production Model, Pricing and Economic Evaluation.** The Firm shall provide the best possible PPA Rate and the best possible cost. This information will be used by the District to determine the greatest financial net benefit, or general fund savings to the District for 25 years. The Firm does not need to provide estimated financial benefits. Please note: An NEM application was filed prior 12/31/2017 to be eligible for SCE legacy TOU periods or until 2027 per decision 17-01-006. Pricing should reflect appropriate rates.
- 3.3.6. Proposed Education Program.** Plan for the Firm to provide general training to District staff and provide an educational kiosk. Firm shall outline what the training and kiosk will provide to the Site occupants as a learning interface to renewable energy.
- 3.3.7. Value Added Options.** Options your firm may provide to the District to enhance or add value to the Project, which may include energy (battery) storage, EV charging stations, off-grid solar workspaces/ picnic areas for student use and phone/ device charging, and other technology or services offered by Firm.

RFP Selection Criteria	Evaluation Weight
Proposal Completeness	5%
Firm's Background, Financial Information, References (from past projects) and Experience	20%
Approach (Includes Recommended Technical Solution and Ability to Meet Project Schedule)	5%
Production Model, Pricing and Economic Evaluation	50%
Value-Added Option (Energy Storage or other)	20%
Total	100%

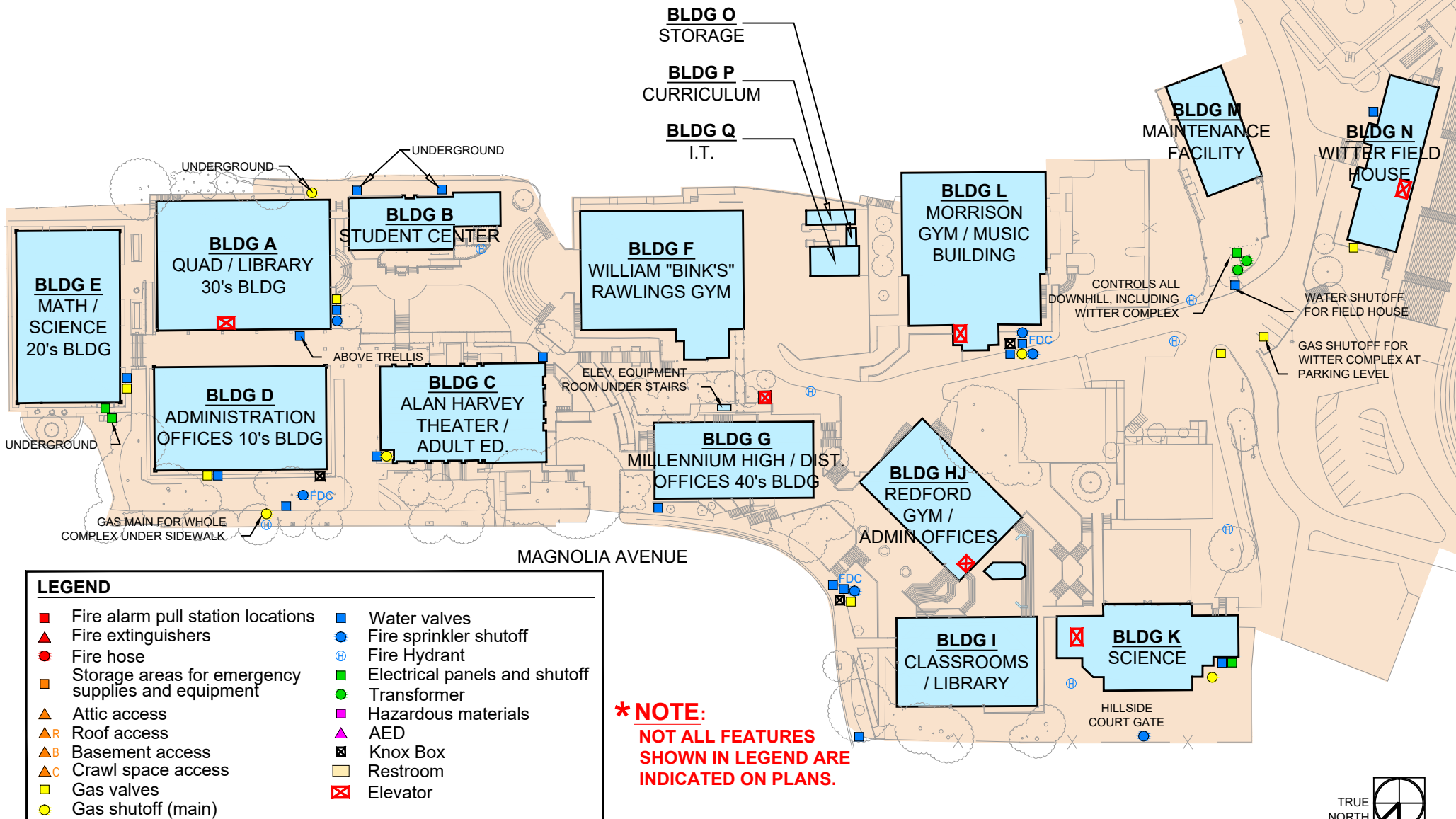
Table 3 - Evaluation Weights

A team of individuals will evaluate all qualifying Responses. The evaluation of each Response will be based on the best value to the District, technical criteria and qualifications listed in this RFP, reference checks of the past projects, and other information that will be independently gathered. Firms may then be invited to appear for an interview, at the discretion of the District.

- 3.4. Interview.** At the discretion of the District, one or some Firm(s) may be interviewed, the format of which will be determined by the District.

Attachment 1: Site Overview

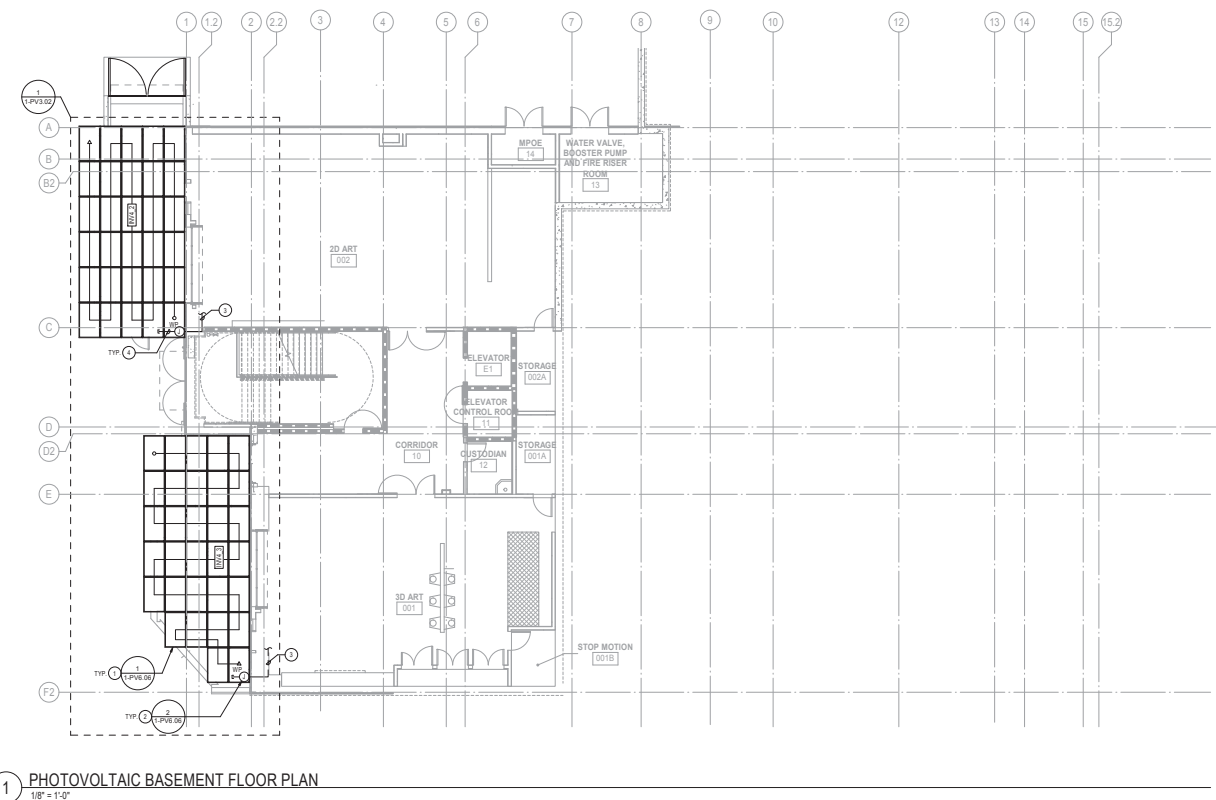
Site layout for the new STEAM and theater buildings. These buildings will replace two buildings at PHS so reference should be made to Attachment 3, below.



PHS/MHS/PMS KEY PLAN

PIEDMONT HIGH SCHOOL, MILLENNIUM HIGH, AND PIEDMONT MIDDLE SCHOOL EMERGENCY PLANS





1 PHOTOVOLTAIC BASEMENT FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- C. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO REPAIR AND INSTALL.
- E. IF 20 OR FEWER #10 WIRES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- F. IF 20 OR FEWER #6 ARE OR CAT 4 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- G. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.
- I. CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- J. ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/2" UNLESS OTHERWISE NOTED.
- K. ALL PULL BOXES INSTALLED UNDER THE AWNING(S) OR CANOPY STRUCTURE(S) SHALL BE SIZED BY THE CONTRACTOR. U.O.N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

SHEET NOTES

- 1. PV MODULE MOUNTED ON CANOPY RACKING SYSTEM. REFER TO PV MODULE CUTSHEET ON 1-PV2.00 FOR MORE INFORMATION.
- 2. JUNCTION BOX CONCEALED UNDERNEATH PV CANOPY STRUCTURE. REFER TO ELEVATION PLANS FOR ADDITIONAL LOCATIONS, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
- 3. CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV CANOPY STRUCTURE TO PV INVERTER(S) INSTALLED IN THE ELECTRICAL ROOM. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
- 4. CONDUIT(S) STRIPPED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.



427 13th Street
 Oakland, CA 94612
 510.663.2070 Telephone
 E-Mail: info@integralgroup.com
 www.integralgroup.com

PTN: 61275-23

FILE: 1-H9
 IDENTIFICATION STAMP
 DIVISION OF THE STATE ARCHITECT
 APPL. 01-117533
 AC _____ FLR _____ SS _____
 DATE _____

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

880 MAGNOLIA AVENUE
 PIEDMONT, CA 94611
 JOB NO. 70100.01
 DRAWN Author
 CHECKED Checker
 JOB CAPTAIN Approver

ISSUE

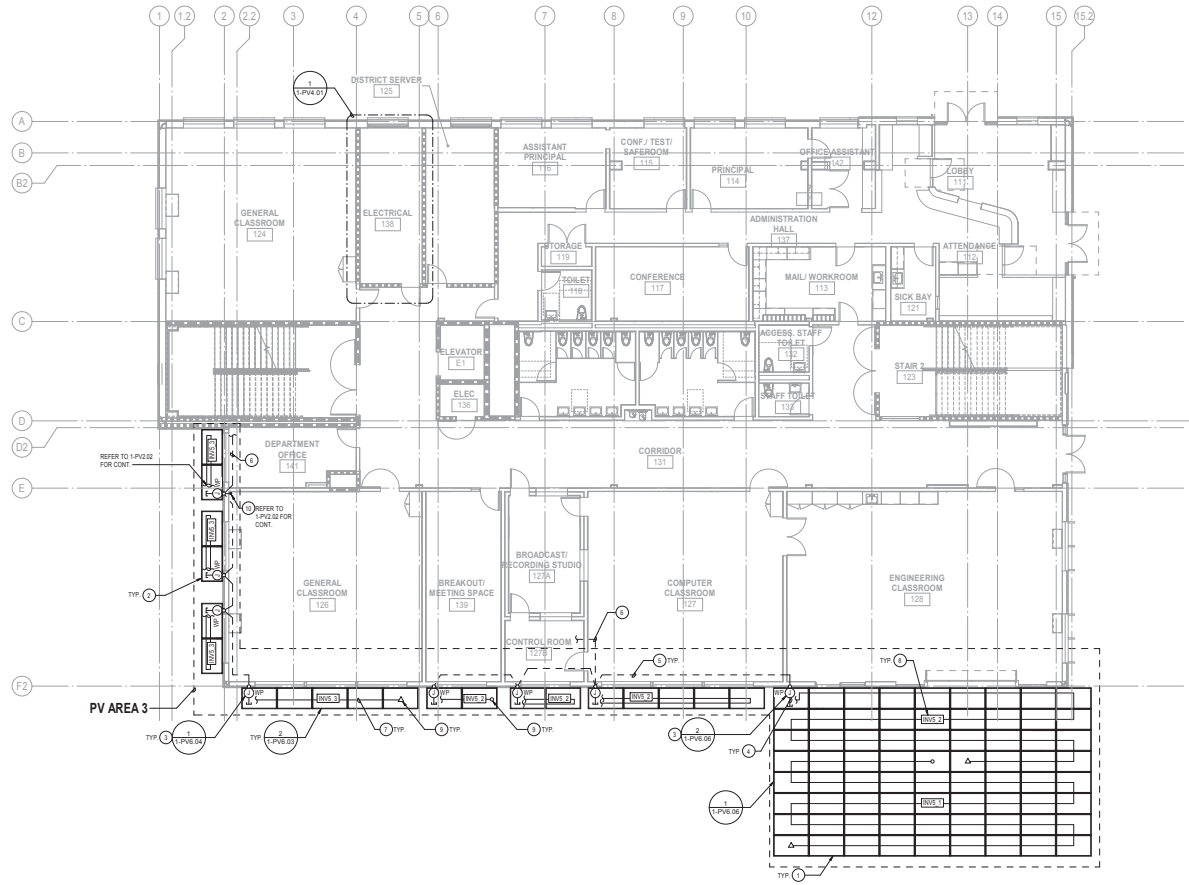
DATE	DESCRIPTION
5/3/2019	BSA BACKCHECK

DRAWING TITLE
 PHOTOVOLTAIC
 BASEMENT FLOOR
 PLAN

SCALE 1/8" = 1'-0"

1-PV2.00

ADDENDUM 7 CONFORMED SET



1 PHOTVOLTAIC FIRST FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- C. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO BEGINNING OF INSTALLATION.
- E. IF 20 OR FEWER #10 P-WIRE ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- F. IF 20 OR FEWER #6 AWG OR CAT 6 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- G. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.
- I. CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- J. ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/4" UNLESS OTHERWISE NOTED.
- K. ALL PULL BOXES INSTALLED UNDER THE AWNING(S) OR CANOPY STRUCTURE(S) SHALL BE SIZED BY THE CONTRACTOR. U/C/N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

SHEET NOTES

- 1. PV MODULE MOUNTED ON CANOPY RACKING SYSTEM. REFER TO PV MODULE CUTSHEET ON 1-PV2.01 FOR MORE INFORMATION.
- 2. PV MODULE MOUNTED ON RACKING SYSTEM ATTACHED TO AWNING(S) OF BUILDING. REFER TO PV MODULE CUTSHEET ON 1-PV2.01 FOR MORE INFORMATION.
- 3. JUNCTION BOX CONCEALED UNDERNEATH PV MODULE. REFER TO ELEVATION PLANS FOR ADDITIONAL LOCATIONS, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
- 4. PV POWER CONDUIT(S) STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
- 5. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO JUNCTION BOX INSTALLED ON THE NEXT AWNING STRUCTURE. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
- 6. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO PV INVERTERS INSTALLED IN THE ELECTRICAL ROOMS. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
- 7. RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO JUNCTION BOX OR PULL BOX.
- 8. BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INV_X, THE X INDICATES THE INVERTER NUMBER AND 1 INDICATES THE STRING NUMBER.
- 9. SYMBOL REPRESENTS THE START AND END OF A PV STRING.
- 10. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM AWNING(S) ON THE FIRST FLOOR TO THE AWNING(S) ON THE SECOND FLOOR. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.



PTN: 61275-23
FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC _____ FLR _____ SS _____
DATE _____

**INCREMENT 1
PIEDMONT &
MILLENNIUM
ALTERNATIVE
HS STEAM
CLASSROOM
BUILDING**

880 MACNOLIA AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

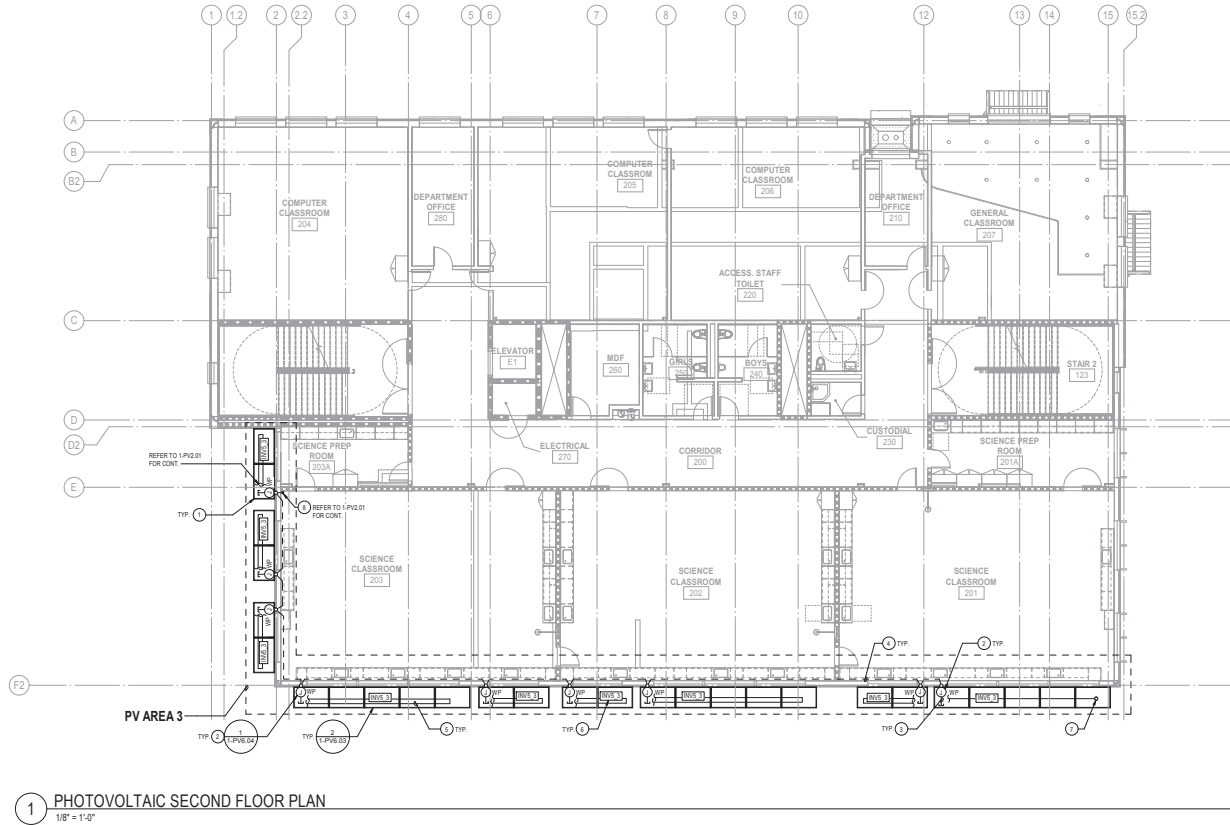
DATE	DESCRIPTION
5/3/2019	BSA BACKCHECK

DRAWING TITLE
PHOTOVOLTAIC
FIRST FLOOR PLAN

SCALE 1/8" = 1'-0"

1-PV2.01

ADDENDUM 7 CONFORMED SET



1 PHOTVOLTAIC SECOND FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED UNLESS OTHERWISE NOTED.
- C. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO INSTALLATION AND INSTALL.
- E. IF (2) OR FEWER #10 PWR Wires ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- F. IF (2) OR FEWER #12 OR CAT 6 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- G. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNIFRUIT CONDUIT SUPPORTS AS REQUIRED.
- I. CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- J. ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/4" UNLESS OTHERWISE NOTED.
- K. ALL PULL BOXES INSTALLED UNDER THE AWNINGS OR CANOPY STRUCTURES SHALL BE SIZED BY THE CONTRACTOR. U/C/N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

① SHEET NOTES

- 1. PV MODULE MOUNTED ON RACKING SYSTEM ATTACHED TO AWNING(S) OF BUILDING. REFER TO PV MODULE CUTSHEET ON I-PV2.02 FOR MORE INFORMATION.
- 2. JUNCTION BOX CONCEALED UNDERNEATH PV MODULE. REFER TO ELEVATION PLANS FOR ADDITIONAL LOCATIONS, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
- 3. PV POWER CONDUIT(S) STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND WIRING SYSTEM. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- 4. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO JUNCTION BOX INSTALLED ON THE BEST WIRING STRUCTURE. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- 5. RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSET OF RACKING SYSTEM TO JUNCTION BOX OR PULL BOX.
- 6. BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INV_X, THE X INDICATES THE INVERTER NUMBER AND S INDICATES THE STRING NUMBER.
- 7. SYMBOL REPRESENTS THE START AND END OF A PV STRING.
- 8. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM AWNINGS ON THE FIRST FLOOR TO THE AWNINGS ON THE SECOND FLOOR. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.



427 13th Street
Oakland, CA 94612
510.663.2070 Telephone
E-Mail: info@integralgroup.com
www.integralgroup.com

PTN: 61275-23

FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC _____ FLR _____ SS _____
DATE _____

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

800 MAGNOLIA AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

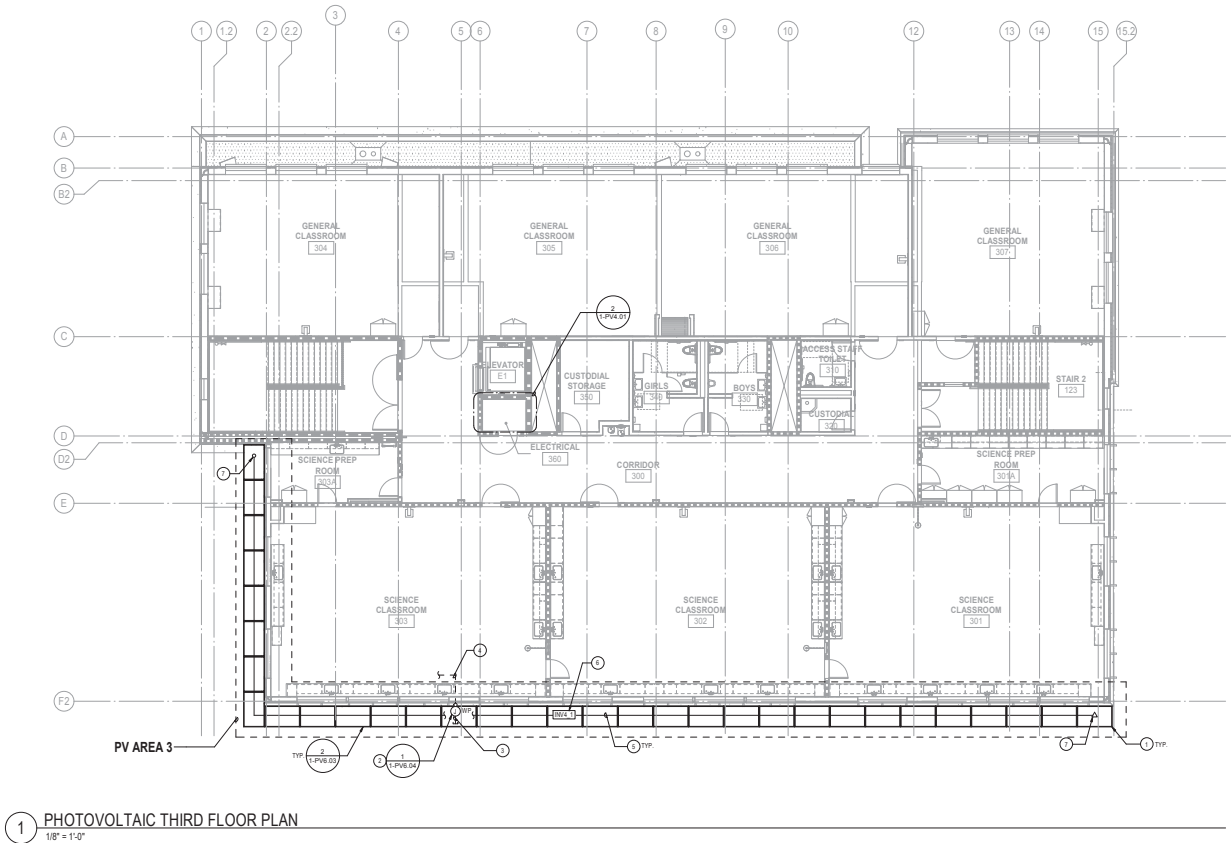
ISSUE	DATE	DESCRIPTION
5	3/20/19	BSA BACKCHECK

DRAWING TITLE
PHOTVOLTAIC
SECOND FLOOR
PLAN

SCALE 1/8" = 1'-0"

1-PV2.02
COPYRIGHT © 2019 HKIT ARCHITECTS

ADDENDUM 7 CONFORMED SET



1 PHOTVOLTAIC THIRD FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- C. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN, PRIOR TO REPAIR AND INSTALL.
- E. IF (2) OR FEWER #10 WIRES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- F. IF (2) OR FEWER #6 AWG OR CAT 6 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- G. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.
- I. ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/2" UNLESS OTHERWISE NOTED.
- J. ALL PULL BOXES INSTALLED UNDER THE AWNINGS (OR CANOPY STRUCTURES) SHALL BE SIZED BY THE CONTRACTOR. (1) ON ALL PULL BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

SHEET NOTES

1. PV MODULE MOUNTED ON RACKING SYSTEM ATTACHED TO AWNING(S) OF BUILDING. REFER TO PV MODULE CUTSHEET ON L.P. FOR MORE INFORMATION.
2. JUNCTION BOX CONCEALED UNDERNEATH PV MODULE. REFER TO ELEVATION PLANS FOR ADDITIONAL LOCATIONS, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
3. PV POWER CONDUITS STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
4. PV POWER CONDUITS ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO PV INVERTERS INSTALLED IN THE ELECTRICAL ROOM(S). CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
5. RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO JUNCTION BOX OR PULL BOX.
6. BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR WVL_5 THE X INDICATES THE INVERTER NUMBER AND S INDICATES THE STRING NUMBER.
7. SYMBOL REPRESENTS THE START AND END OF A PV STRING.

PTN: 61275-23

FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC _____ FLR _____ SS _____
DATE _____

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNIUM HS STEAM CLASSROOM BUILDING

880 MAGNOLIA AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

ISSUE		
NO.	DATE	DESCRIPTION
5	3/20/19	BSA BACKCHECK

DRAWING TITLE
PHOTVOLTAIC
THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

1-PV2.03

COPYRIGHT © 2019 HKIT ARCHITECTS

GENERAL NOTES

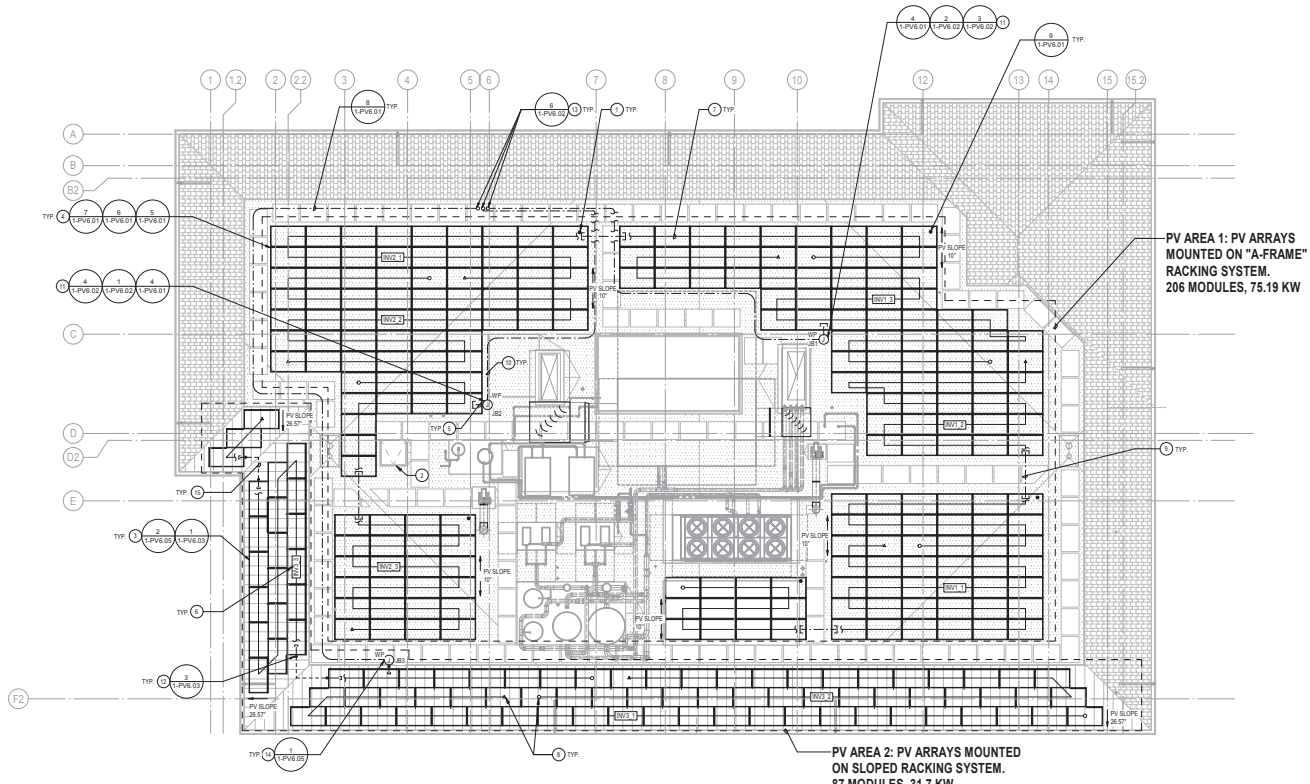
- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM(S) FOR ALL WIRING SIZES AND QTY AND MORE INFORMATION.
- C. ALL ROOFTOP CONDUIT SHALL BE 1/4" UNLESS OTHERWISE NOTED IN FINISHED INTERIOR AREAS. FOR ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD, NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN, PRIOR TO ROUGH-IN AND INSTALL.
- E. IF 1/2" OR FEWER #12 POWER WIRES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1 1/4" CONDUIT.
- F. IF 1/2" OR FEWER #12 OR CAT 4 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- G. ALL PULL BOXES INSTALLED ON THE ROOF SHALL BE SIZED BY THE CONTRACTOR U.S.D.N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH EACH ONE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PRECISE NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.
- H. ALL ROOF PENETRATIONS TO BE PERFORMED BY A LICENSED ROOFING CONTRACTOR. COORDINATE ROOF FINISHING AND FLASHINGS WITH ROOFING CONTRACTOR.
- I. SECURE CONDUIT TO SUPPORTS AT CODE REQUIRED INTERVALS.
- J. ROOF PENETRATIONS MATERIALS AND CONSTRUCTION BY LICENSED ROOFING CONTRACTOR. REFER TO ARCHITECTURAL DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- K. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
- L. COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.
- M. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNFITTED SUPPORTS AS REQUIRED. FOR THE FLAT AND THE SLOPED ROOFS, THE PV MODULES, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, AND THE DC OPTIMIZER SYSTEM SHALL BE PROVIDED BY THE SCHOOL DISTRICT AND NOT INCLUDED IN THE CONTRACTOR'S BID. FOR THE FLAT AND THE SLOPED ROOFS, THE STANCHIONS AND "A-FRAME" RACKING SYSTEM INSTALLED ON TOP OF THE STANCHIONS ON THE FLAT ROOF AND THE RACKING SYSTEM ON THE SLOPED ROOFS. METAL ROOF SHALL BE PROVIDED BY THE CONTRACTOR AND LISTED AS SEPARATE LINE ITEMS IN THEIR BIDS.

FOR THE TRUSS STRUCTURES AND ANNEXES ATTACHED TO BUILDING FACADE, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, AND THE DC OPTIMIZER SYSTEM SHALL BE PROVIDED BY THE SCHOOL DISTRICT AND NOT INCLUDED IN THE CONTRACTOR'S BID. FOR THE TRUSS STRUCTURES AND ANNEXES ATTACHED TO BUILDING FACADE, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, AND THE DC OPTIMIZER SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR AND LISTED AS SEPARATE LINE ITEMS IN THEIR BIDS.

ALL OTHER COMPONENTS FOR THE PV SYSTEM, INCLUDING THE INFRASTRUCTURE ITEMS RELATED TO FLAT, MANSARD ROOF, TRUSS STRUCTURES, AND ANNEX PV ARRAYS LISTED ABOVE, SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR THE PROJECT. THE INFRASTRUCTURE ITEMS LISTED ABOVE SHALL NOT BE LIMITED TO THE STANCHIONS OR SUPPORT LEGS FOR THE "A-FRAME" RACKING SYSTEM ON THE FLAT ROOF, THE PV SUB PANEL AND ITS ASSOCIATED CONDUITS AND FEEDERS, THE PV INVERTER DISCONNECT SWITCH AND FEEDER ASSOCIATED CONDUITS AND FEEDERS. THE PULL BOXES INSTALLED UNDER THE ROOF AND THEIR ASSOCIATED STUBBED UP, THE CONDUITS ROUTED EXPOSED FROM THE PULL BOXES TO THE PV SUB PANEL, THE CONDUITS ROUTED IN THE BUILDING FROM THE ANNEXES TO THE ROOF, THE CONDUITS STUBBED UNDER THE ROOF BETWEEN THE INTERIOR ROOMS, AND THE CONDUITS STUBBED BETWEEN THE ELECTRICAL ROOMS AND THE ROOF.

SHEET NOTES

- 1. PV RACKING SYSTEM STANCHIONS: STANCHIONS SHALL BE INSTALLED AT # 2' O.C. MAX IN EACH DIRECTION. CONTRACTOR SHALL PROVIDE AT LEAST 4 STANCHIONS PER PV ARRAY. CONTRACTOR SHALL ALSO PROVIDE ADDITIONAL STANCHIONS AS REQUIRED TO PREVENT ANY PV MODULES FROM OVERHANGING A STANCHION OR MORE THAN 3" O.C. CONTRACTOR SHALL PROVIDE AND INSTALL ENOUGH STANCHIONS TO PROVIDE A FULLY FUNCTIONAL PV RACKING SYSTEM AS REQUIRED BY THE PV RACKING MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL COORDINATE WITH SILVERBACK SOLAR S-B SERIES STRUCTURAL DRAWINGS.
- 2. ROOF HATCH.
- 3. PV MODULES MOUNTED ON A STANDING SEAM METAL RACKING SYSTEM. REFER TO PV MODULE CUTSHEET ON 1-PV2.04 FOR MORE INFORMATION.
- 4. PV MODULE MOUNTED ON "A-SILVERBACK SOLAR FRAME" PIPE RACK SYSTEM. REFER TO PV MODULE CUTSHEET ON 1-PV2.04 FOR MORE INFORMATION.
- 5. (1) 1-1/4" CONDUIT STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. PROVIDE WEATHERPROOF CALKING, PUTTY OR WEATHERPROOF COMPRESSION FITTING AT THE END OF CONDUIT PER JUNCTION BOX SPECIFICATIONS AND INSTALLATION MANUAL.
- 6. BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INVA, THE X INDICATES THE INVERTER NUMBER AND Y INDICATES THE STRING NUMBER.
- 7. RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO PULL BOX.
- 8. SYMBOL REPRESENTS THE START AND END OF A PV STRING.
- 9. CONDUIT STUBBED BETWEEN PV ARRAYS. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT THAT IS SUFFICIENTLY LARGE ENOUGH TO FIT ALL WIRES THAT ARE REQUIRED TO BE ROUTED THROUGH THE CONDUIT. CONDUIT ROUTED UNDER ROOF BETWEEN PULL BOXES.
- 10. IN ORDER TO KEEP THE PATHWAYS BETWEEN THE PV ARRAYS AS CLEAR AS POSSIBLE OF OBSTRUCTIONS, CONTRACTOR SHALL INSTALL THE CONDUITS ROUTED ON THE ROOF EITHER UNDER THE PV ARRAYS OR AS CLOSE AS POSSIBLE TO THE EDGES OF THE PV ARRAYS. CONDUITS ARE ONLY TO BE INSTALLED IN THE PATHWAYS FOR CLARITY.
- 11. 8" X 8" X 4" (AT MIN. NEMA 4 WEATHERPROOF) PULL BOX WITH FULLY GARBEETED HINGED LOOSEABLE DOOR FOR PV SYSTEM MOUNTED ON RECYCLED RUBBER ROOF SUPPORTS. INSTALL PULL BOX PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- 12. PROVIDE 1" CONDUIT STUBBED UP THROUGH THE ROOF TO A LOCATION THAT IS CONCEALED AND DIRECTLY BELOW THE PV MODULES. CONTRACTOR SHALL PROVIDE WEATHERPROOF CALKING OR PUTTY AT THE END OF THE CONDUITS AS REQUIRED.
- 13. PV CONDUITS (2) 1-1/4" POWER CONDUITS). ROUTE POWER CONDUITS FROM ROOF TO INVERTERS. 1.240 LOCATED IN THIRD FLOOR ELECTRICAL ROOM. REFER TO PV 1-PV1.01 FOR ADDITIONAL INFORMATION.
- 14. 8" X 8" X 4" (AT MIN. NEMA 4 WEATHERPROOF) PULL BOX WITH FULLY GARBEETED HINGED LOOSEABLE DOOR FOR PV SYSTEM MOUNTED ON WARMUP WALL. INSTALL PULL BOX PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- 15. PROVIDE CONDUITS STUBBED UNDER THE ROOF BETWEEN PV ARRAYS. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT THAT IS SUFFICIENTLY LARGE ENOUGH TO FIT ALL WIRES THAT ARE REQUIRED TO BE ROUTED THROUGH THE CONDUIT.



1 PHOTOVOLTAIC ROOF PLAN
1/8" = 1'-0"

PTN: 61275-23

FILE: 1-1H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533

AC: _____ FL: _____ SS: _____
DATE: _____

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

800 MACDONALD AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

DATE	DESCRIPTION
5/6/2019	ADDENDUM #7

DRAWING TITLE
PHOTOVOLTAIC
ROOF PLAN



GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- C. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- D. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN, PRIOR TO ROUGH-IN AND INSTALL.
- E. IF (2) OR FEWER #10 POWER WIRES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 1/2" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- F. IF (2) OR FEWER #10 OR CAT 4 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 1/2" CONDUIT INSTEAD OF 1" CONDUIT.
- G. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.
- I. ALL PV POWER CONDUITS ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/2" UNLESS OTHERWISE NOTED.
- J. ALL PULL BOXES INSTALLED UNDER THE AWNINGS OR CANOPY STRUCTURES SHALL BE SIZED BY THE CONTRACTOR. I/O'S, ALL PULL BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

SHEET NOTES

1. NEMA 4 JUNCTION BOX CONCEALED UNDERNEATH PV MODULE. CONTRACTOR SHALL COORDINATE WITH ARCHITECT PRIOR TO FINAL ROUGH-IN.
2. STUB CONDUIT THROUGH EXTERIOR WALL TO JUNCTION BOX MOUNTED CONCEALED DIRECTLY UNDERNEATH PV MODULE. CONTRACTOR SHALL PROVIDE WEATHER PROOF CALKING AND FLASHINGS AS REQUIRED.
3. (1) 1/2" PV POWER CONDUIT(S) STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULE AND MOUNTED SYSTEM PROVIDE WEATHERPROOF CALKING, PUTTY OR WEATHERPROOF COMPRESSION FITTING AT END OF CONDUIT PER JUNCTION BOX SPECIFICATIONS AND INSTALLATION MANUAL. REFER TO SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
4. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO JUNCTION BOX INSTALLED ON THE NEXT AWING STRUCTURE. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO FLOOR PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
5. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO PV INVERTERS INSTALLED IN THE ELECTRICAL ROOM(S). CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. REFER TO FLOOR PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.
6. PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM AWINGS ON THE FIRST FLOOR TO THE AWINGS ON THE SECOND FLOOR. REFER TO FLOOR PLANS AND SINGLE LINE DIAGRAM(S) FOR MORE INFORMATION.

PV AREA 3: PV ARRAYS MOUNTED ON FACADE OF BUILDING, ABOVE WINDOWS AND ON BASEMENT CANOPY. 85 MODULES, 31.025 KW

PTN: 61275-23

FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC: _____ FLR: _____ SS: _____
DATE: _____

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

800 MACDONALD AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

DATE	DESCRIPTION
5/3/2019	BSA BACKCHECK

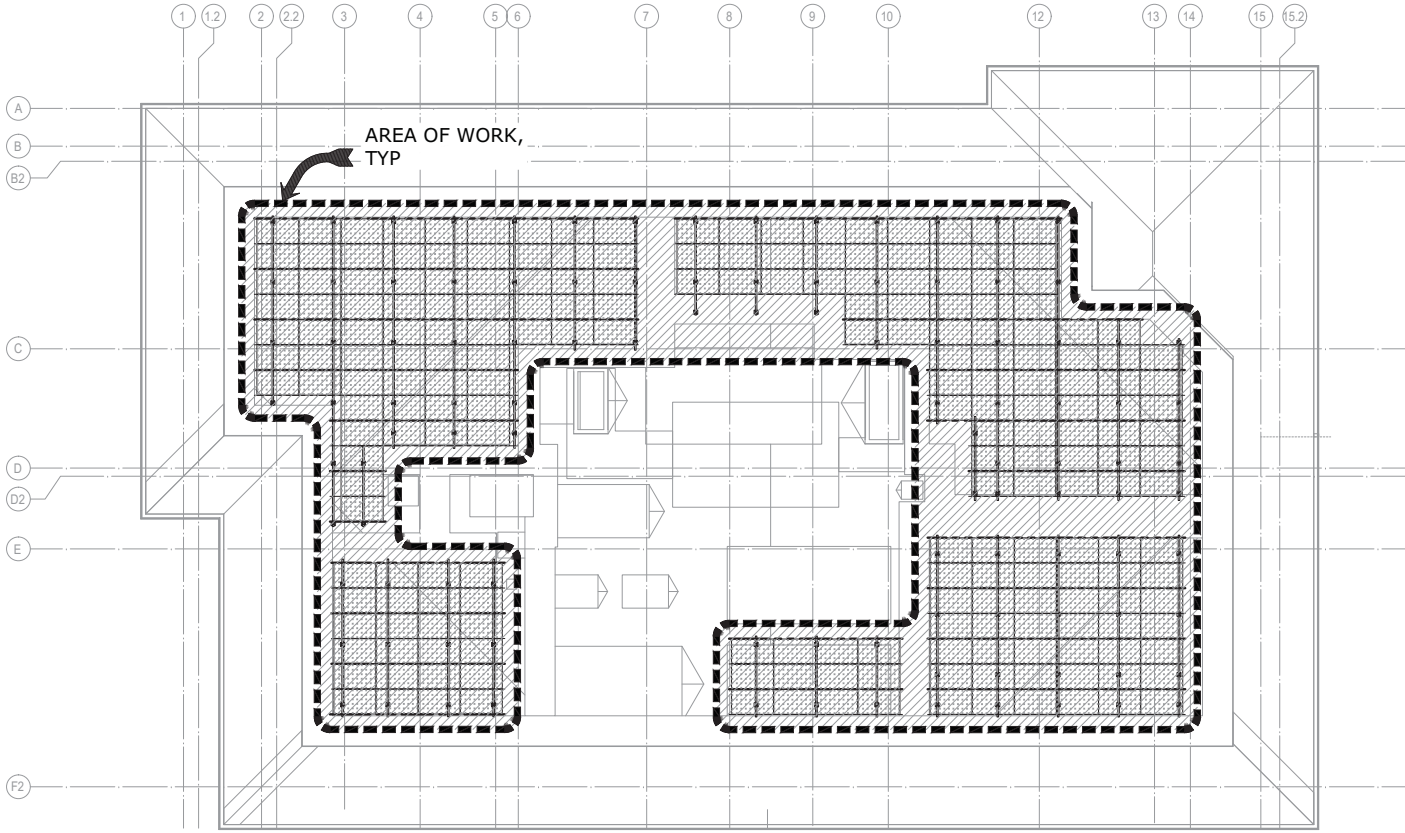
1 SIDE FACADE STEAM BUILDING - PHOTOVOLTAIC
1/4" = 1'-0"

DRAWING TITLE
PHOTOVOLTAIC
FACADE

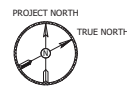
SILVERBACK SOLAR CONSTRUCTION DOCUMENTS:

PIEDMONT USD

CONSTRUCTION DOCUMENT DATED: 03/27/19
 LOCATION: 800 MAGNOLIA AVE,
 PIEDMONT, CA 94611



SITE PLAN
SCALE: NTS



CODE ANALYSIS

ALL WORK SHALL COMPLY WITH THE 2016 CALIFORNIA BUILDING CODE (CBC)

RISK CATEGORY	(ASCE 7, TABLE 1-1)	II
WIND DESIGN CRITERIA	(ASCE 7, TABLE 1-1)	II
WIND SPEED	(ASCE FIG. 26.5-1A)	115 MPH
WIND EXPOSURE	(ASCE 7.7.3)	B
CAC WIND PRESSURE	(ASCE 7 FIG. 30.5-1)	43.1 PSF (ASD)
SEISMIC DESIGN CRITERIA		
IMPORTANCE FACTOR	(ASCE 7, TABLE 1.5-1)	1.00
SITE CLASS	(ASCE 11.4.2)	D
S ₁	(ASCE 7, FIG. 22-1)	2.204
S ₂	(ASCE 7, FIG. 22-2)	962
S ₃	(ASCE 7, 11.4.4)	1.529
SD1	(ASCE 7, 11.4.4)	962
SD2	(ASCE 7, 11.4.4)	962
SEISMIC DESIGN CATEGORY	(ASCE 7, TABLE 11.6-1, 11.6-2)	E
SEISMIC DESIGN FORCE (F _s)	(ASCE 7, 13.3)	86W PSF (ASD)
COMPONENT AMPLIFICATION FACTOR, c _p	(ASCE 7, TABLE 13.5-1)	1.00
RESPONSE MODIFICATION FACTOR, R	(ASCE 7, TABLE 13.5-1)	1.50

MATERIAL SPECIFICATIONS

STRUCTURAL STEEL & MISCELLANEOUS IRON

ROUND TUBING: GALVANIZED 16 GA ASTM A500 GRADE B, MIN F_y = 40 KSI
 POLYESTER POLYURETHANE POWDER COATED
 PROPRIETARY PARTS: ASTM A500C TYPE A, F_y = 44 KSI
 BASE SUPPORT BASE PLATE, ASTM A36, F_y = 36 KSI
 STAINLESS STEEL, AISI TYPE 304, F_y = 31.2 KSI
 6063 T6, F_y = 30 KSI
 ASTM F307C (AISI 18-8)
 AISI 18-8
 470M1
 ITW BULDEX W/ CLMASEAL (ESR 1976) OR APPROVED EQUAL

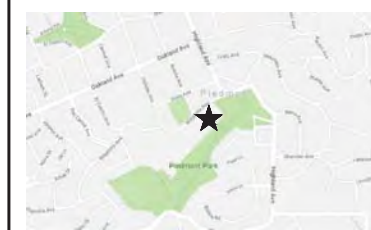
EXTRUDED ALUMINUM
 STAINLESS STEEL NUTS
 STAINLESS STEEL NUTS AND WASHERS
 WELDING ELECTRODES
 SELF DRILLING SELF TAPPING SCREWS

SCOPE OF WORK

NEW ROOFSCREEN

NOTE: EVALUATION OF EXISTING ROOF SHEATHING, ROOF FRAMING, AND BUILDING FOR NEW MECHANICAL EQUIPMENT AND SCREEN LOADS (INCLUDING SNOW DRIFT LOADING EFFECTS) SHALL BE PROVIDED BY OTHERS. LOAD REACTIONS AT BASE SUPPORTS ARE LISTED ON FRAME SPECIFICATIONS.

AREA MAP



VICINITY MAP



SHEET INDEX

SHEET	CONTENTS
SB-0	CODE ANALYSIS, SITE PLAN, SHEET INDEX, AREA MAP, VICINITY MAP, SCOPE OF WORK
SB-1	SILVERBACK PLAN - STEAM BUILDING
SB-2	SILVERBACK FRAME DETAILS & SPECIFICATIONS
SB-3	SILVERBACK PART/ASSEMBLY DETAILS

Vertical strip on the right side containing logos for Piedmont USD, Silverback Solar, and project information.

PIEDMONT USD
 800 MAGNOLIA AVE
 PIEDMONT, CA 94611
 THIS DRAWING WAS PREPARED BY:
 THE CIVIL ENGINEER
 800 MAGNOLIA AVE, SUITE 200
 PIEDMONT, CA 94611
 PH: 925.777.6000
 WWW.SILVERBACKSOLAR.COM

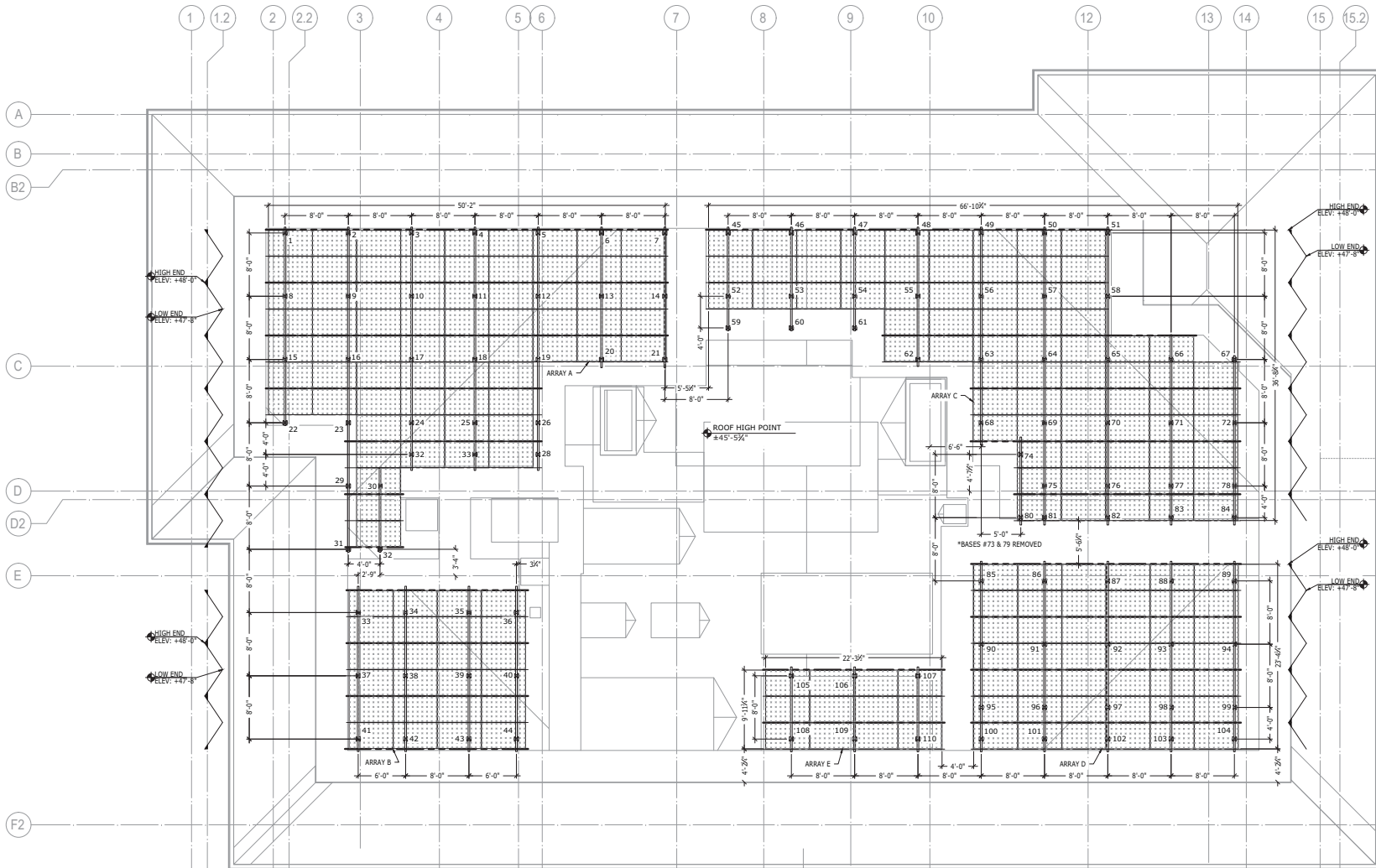
SILVERBACK SOLAR
 10000 SILVERBACK DRIVE
 SUITE 200
 PIEDMONT, CA 94611
 PH: 925.777.6000
 WWW.SILVERBACKSOLAR.COM

SHEET INDEX
 SHEET: SB-0
 CONTENTS: CODE ANALYSIS, SITE PLAN, SHEET INDEX, AREA MAP, VICINITY MAP, SCOPE OF WORK

PROJECT NORTH
 TRUE NORTH

DRAWN BY: TM
 CHECKED BY: GP
 JOB NUMBER: 2019

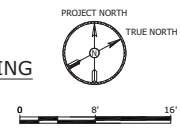
SHEET: SB-0



NOTES:
 1. THE ACCURACY OF THE DATA USED TO CREATE THIS LAYOUT HAS NOT BEEN FIELD VERIFIED. THE AS-BUILT LOCATIONS OF ROOF FRAMING MEMBERS AND MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
 2. NOTIFY THE ENGINEER IF FIELD VERIFIED DIMENSIONS VARY MORE THAN ±3".

PANEL QUANTITIES			
ARRAY	PANELS HIGH	PANELS WIDE	PANELS TOTAL
A	12	9	68
B	6	4	24
C	12	11	72
D	7	6	42
E	3	4	12
			218

SILVERBACK SOLAR PLAN - STEAM BUILDING
 SCALE: 3/16" = 1' (218 MODULES)



- LEGEND**
- # — SILVERBACK SOLAR FRAMES W/FRAME NUMBERS
 - ▒ SOLAR PANELS
 - HIGH END ZEE CHANNEL & WEB BUCKLING STIFFENER, SPLICE AS REQUIRED
 - - - LOW END HAT CHANNEL, SPLICE AS REQUIRED
 - - - LB# - LATERAL BRACE W/ BRACE # (DTL 19/SB-3)

NO.	DESCRIPTION	DATE
1	ISSUE FOR PERMITS/CONSTRUCTION	
2	ISSUE FOR PERMITS/CONSTRUCTION	
3	ISSUE FOR PERMITS/CONSTRUCTION	
4	ISSUE FOR PERMITS/CONSTRUCTION	
5	ISSUE FOR PERMITS/CONSTRUCTION	
6	ISSUE FOR PERMITS/CONSTRUCTION	



FILE NUMBER: _____
 CONFIGURATION STATE: _____
 DESIGN OF THE STEAM PROJECT: _____
 HPI: 440-12321-0004

PIEDMONT USC
 PIEDMONT, CA 94611
 THIS DRAWING WAS PREPARED BY:
 THE CHANGING REALTY
 1000 W. 17TH STREET
 DENVER, CO 80202
 WWW.CHANGINGREALTY.COM



SILVERBACK SOLAR PLAN - STEAM BUILDING

DRAWN BY: TM
 CHECKED BY: GP
 CDR NUMBER: 2000

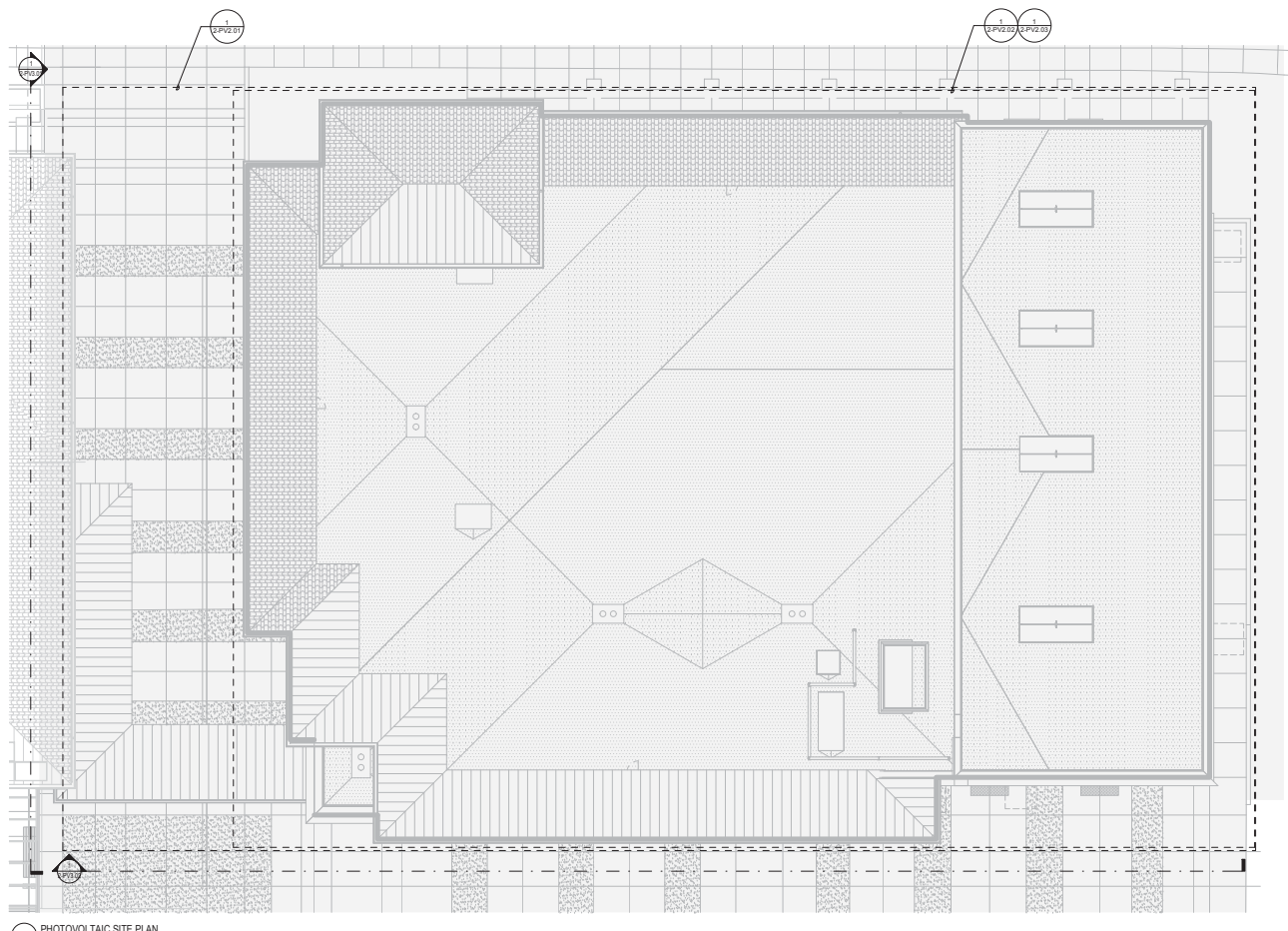
SHEET

SB-1

ADDENDUM 7 CONFORMED SET

10/15/2018 3:49:03 PM

C:\Users\whof\Documents\101002_PUSD_WHT_MEP_annotp.dwg



1 PHOTOVOLTAIC SITE PLAN
1/8" = 1'-0"



PTN: 61275-23

FILE:	1-H9
IDENTIFICATION STAMP:	
DIVISION OF THE SEALS ARCHITECT:	
APPL.:	01-117533
AC:	FLS: SS
DATE:	

INCREMENT 2
PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
JOB NO. 70100.02
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

Δ	DATE	DESCRIPTION
	01/28/18	50% DD
	05/16/18	100% DD
	05/3/18	50% CD

DRAWING TITLE
PHOTOVOLTAIC SITE PLAN

SCALE 1/8" = 1'-0"
2-PV1.02
COPYRIGHT © 2018 HKIT ARCHITECTS



PTN: 61275-23

FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE SENIORS ARCHITECT
APPL. 01-117533
AC: PLS SS
DATE:

INCREMENT 2

PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611

JOB NO.	70100.02
DRAWN	Author
CHECKED	Checker
JOB CAPTAIN	Approver

ISSUE

Δ	DATE	DESCRIPTION
	01/28/18	50% DD
	05/16/18	100% DD
	05/31/18	50% CD
1	10/17/18	ADDENDUM #1

DRAWING TITLE
PHOTOVOLTAIC 1ST FLOOR PLAN

SCALE 1/8" = 1'-0"

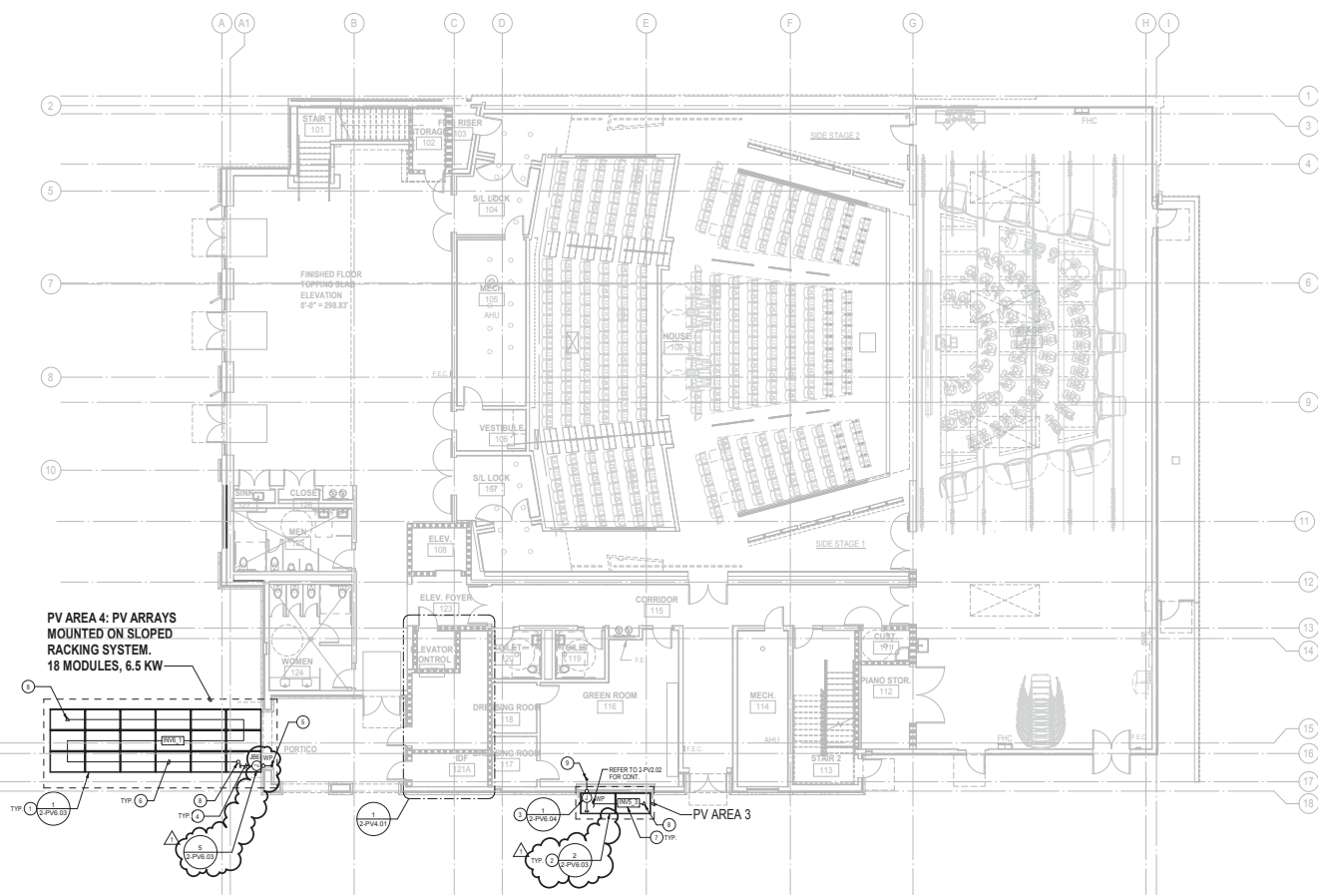
2-PV2.01
COPYRIGHT © 2018 HKIT ARCHITECTS

GENERAL NOTES

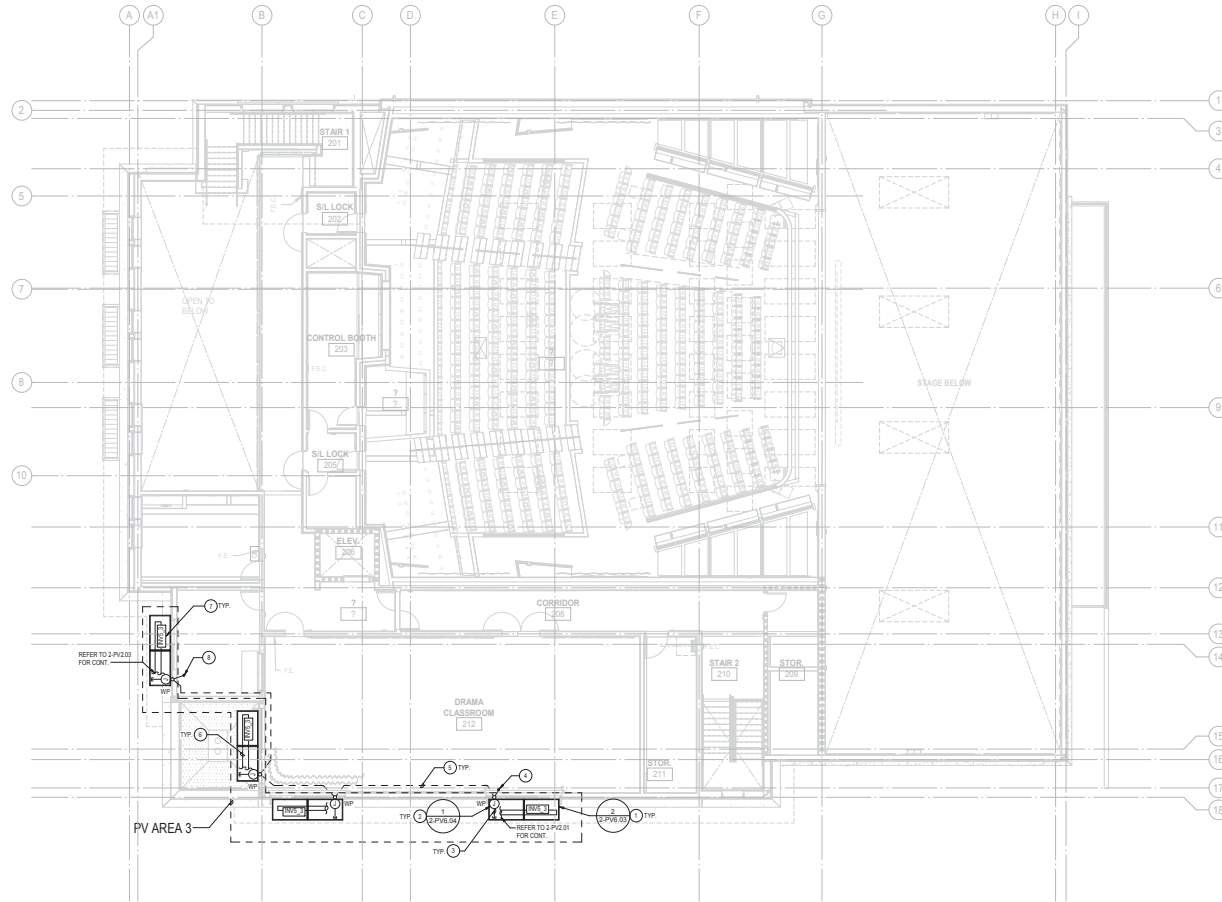
- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL, AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS.
- REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED UNLESS OTHERWISE NOTED.
- CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO RECEIVING AND INSTALL.
- IF 25 OR FEWER #10 PV WIRING ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1 1/2" CONDUIT.
- IF 25 OR FEWER #14 AWG OR CAT 4 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- SEE SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNITS/FT CONDUIT SUPPORTS AS REQUIRED.
- CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1/2" UNLESS OTHERWISE NOTED.
- ALL PULL BOXES INSTALLED UNDER THE AWNING(S), CANOPY OR WALKWAY STRUCTURE(S) SHALL BE SIZED BY THE CONTRACTOR, U.O.M. ALL PULL BOXES INSTALLED SHALL COMPLY WITH CSC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULL FUNCTIONAL SYSTEM.

⊕ SHEET NOTES

- PV MODULE MOUNTED ON STEEL WALKWAY.
- PV MODULE MOUNTED ON RACKING SYSTEM ATTACHED TO AWNING(S) OF BUILDING.
- JUNCTION BOX CONCEALED UNDERNEATH PV MODULE. SEE ELEVATION PLANS FOR ADDITIONAL LOCATION, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
- CONDUITS STRIBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- CONDUITS ROUTED IN THE BUILDING SHALL FROM JUNCTION BOX INSTALLED UNDERNEATH PV MODULES TO PV INVERTER INVS INSTALLED ON THE ROOF. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO JUNCTION BOX OR PULL BOX.
- BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INV_5 THE X INDICATES THE INVERTER NUMBER AND S INDICATES THE STRING NUMBER.
- SYMBOL REPRESENTS THE START AND END OF A PV STRING.
- PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM AWNINGS ON THE FIRST FLOOR TO THE AWNINGS ON THE SECOND FLOOR. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.



1 PHOTOVOLTAIC 1ST FLOOR PLAN
1/8" = 1'-0"



1 PHOTOVOLTAIC 2ND FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED UNLESS OTHERWISE NOTED.
- CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO RECEIVING AND INSTALL.
- IF (2) OR FEWER #10 PV WIRE ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1-1/4" CONDUIT.
- IF (2) OR FEWER #16 OR CAT 4 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- SEE SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNSTRUTTED CONDUIT SUPPORTS AS REQUIRED.
- CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- ALL PV POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/2" UNLESS OTHERWISE NOTED.
- ALL PULL BOXES INSTALLED UNDER THE AWNING(S), CANOPY OR WALKWAY STRUCTURE(S) SHALL BE SEED BY THE CONTRACTOR, U/D.N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH CSC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULL FUNCTIONAL SYSTEM.

SHEET NOTES

- PV MODULE MOUNTED ON RACKING SYSTEM ATTACHED TO AWNING(S) OF BUILDING.
- JUNCTION BOX CONCEALED UNDERneath PV MODULE. SEE ELEVATION PLANS FOR ADDITIONAL LOCATIONS, CONDUIT ROUTING, AND ADDITIONAL INFORMATION.
- CONDUIT(S) STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- CONDUIT(S) ROUTED IN THE BUILDING WALL FROM JUNCTION BOX INSTALLED UNDERneath PV MODULES TO PULL BOX. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDERneath PV MODULES TO JUNCTION BOX INSTALLED ON THE NEXT AWNING STRUCTURE. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- RUN PV STRING WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO JUNCTION BOX OR PULL BOX.
- BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INV#_S THE X INDICATES THE INVERTER NUMBER AND S INDICATES THE STRING NUMBER.
- PV POWER CONDUIT(S) ROUTED IN THE BUILDING FROM AWNING(S) ON THE SECOND FLOOR TO THE BLINDED ROOF ABOVE. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.



PTN: 61275-23
 FILE: 1-H9
 IDENTIFICATION STAMP
 DIVISION OF THE STATE ARCHITECT
 APPL: 01-117533
 AC: PLS SS
 DATE:

INCREMENT 2

PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

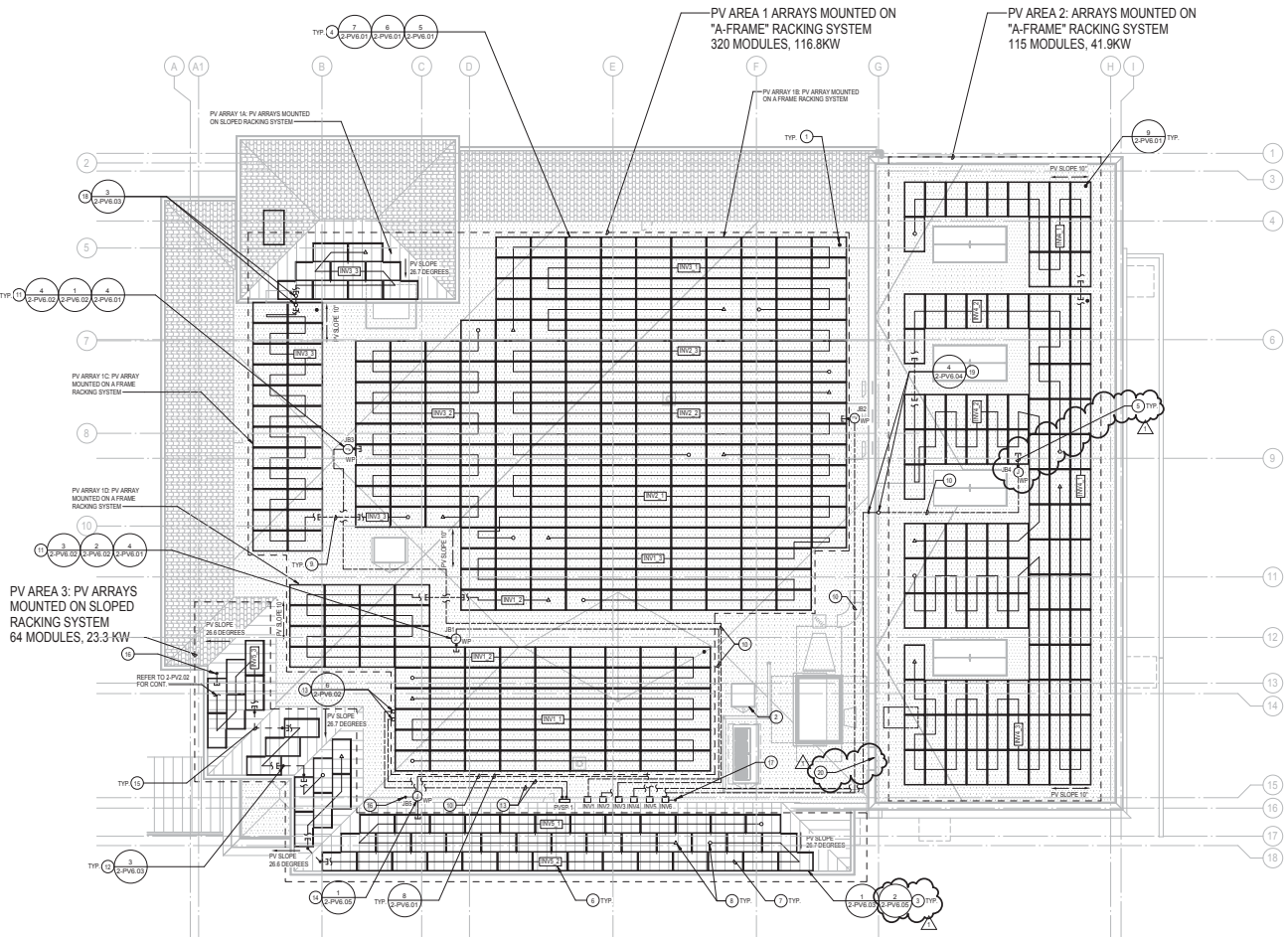
800 Magnolia Ave., Piedmont, CA 94611
 JOB NO. 70100.02
 DRAWN Author
 CHECKED Checker
 JOB CAPTAIN Approver

ISSUE		
Δ	DATE	DESCRIPTION
	01/28/18	50% DD
	05/16/18	100% DD
	05/31/18	50% CD

DRAWING TITLE
 PHOTOVOLTAIC 2ND FLOOR PLAN

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND CITY FOR MORE INFORMATION.
- C. ALL ROOFTOP CONDUIT SHALL BE 1 1/4" UNLESS OTHERWISE NOTED IN FINISHED INTERIOR AREAS; FOR ALL CONDUITS CONCEALED UNLESS OTHERWISE NOTED.
- D. CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY; EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- E. CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PV PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SOONER, PRIOR TO ROUGHING AND INSTALL.
- F. IF (2) OR FEWER #10 PWR Wires ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1 1/4" CONDUIT.
- G. IF (2) OR FEWER #8 OR OR CAT 6 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- H. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISETRUB CONDUIT SUPPORTS AS REQUIRED.
- I. CONTRACTOR SHALL PROVIDE A DIAGRAM TO THE OWNER THAT INDICATES EACH PV MODULE'S SERIAL NUMBER AND THE MODULES LOCATION IN THE PV ARRAYS ON THE ROOF.
- J. ALL PV POWER (CONDUITS) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1 1/4" UNLESS OTHERWISE NOTED.
- K. ALL PULL BOXES INSTALLED ON ROOF UNDER THE AWNING(S) OR CANOPY STRUCTURE(S) SHALL BE SIZED BY THE CONTRACTOR U.S.N. ALL PULL BOXES INSTALLED SHALL COMPLY WITH IEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULL FUNCTIONAL SYSTEM.
- L. ALL ROOF PENETRATIONS TO BE PERFORMED BY A LICENSED ROOFING CONTRACTOR COORDINATE ROOF PENETRATIONS AND FLASHINGS WITH ROOFING CONTRACTOR.
- M. ALL ROOF PENETRATIONS TO BE PERFORMED BY A LICENSED ROOFING CONTRACTOR COORDINATE ROOF PENETRATIONS AND FLASHINGS WITH ROOFING CONTRACTOR.
- N. SECURE CONDUIT TO SUPPORTS AT CODE REQUIRED INTERVALS.
- O. ROOF PENETRATIONS MATERIALS AND CONSTRUCTION BY LICENSED ROOFING CONTRACTOR. SEE ARCHITECTURAL DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- P. IN FINISHED INTERIOR AREAS, ALL CONDUIT CONCEALED UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT REFER TO ARCHITECTS FINISHING SECTION FOR REQUIREMENTS.
- Q. COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.
- R. THE PV MODULES, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, EXPOSED IN AREAS SHALL BE COVERED OR CONCEALED INSTALLED ON THE ROOF DC OPTIMIZER SYSTEM. THE "A-FRAME" RACKING SYSTEM INSTALLED ON TOP OF THE STANCHIONS ON THE FLAT ROOF. THE "A-FRAME" RACKING SYSTEM INSTALLED ON TOP OF THE STANCHIONS ON THE AWNING(S) AND THE COVERED WALKWAY SHALL BE SHOWN AS AN ADDITIONAL ALTERNATIVE TO THE PROJECT. ALL CONDUIT CONCEALED UNLESS OTHERWISE NOTED. THE INFRASTRUCTURE ITEMS RELATED TO ALTERNATE #1 PV SYSTEM ITEMS, SHALL BE INCLUDED IN THE BASE BID FOR THE PROJECT. THE INFRASTRUCTURE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: THE STANCHIONS OR SUPPORT LEGS FOR THE "A-FRAME" RACKING SYSTEM ON THE FLAT ROOF. THE PV SUB PANEL AND ITS ASSOCIATED CONDUITS AND FEEDERS; THE PULL BOXES INSTALLED UNDER THE ROOF AND THE ASSOCIATED CONDUITS; THE PULL BOXES INSTALLED EXPOSED FROM THE PULL BOXES TO THE PV SUB PANEL. THE CONDUITS ROUTED IN THE BUILDING FROM THE AWNING(S) AND COVERED WALKWAY TO THE ROOF, THE CONDUITS STUBBED FROM THE ROOF TO THE ELECTRICAL AND 42F ROOMS, AND THE CONDUITS STUBBED BETWEEN THE ELECTRICAL ROOMS AND THE 42F ROOMS.



1 PHOTOVOLTAIC ROOF PLAN
1/8" = 1'-0"

SHEET NOTES

1. PV RACKING SYSTEM STANCHION STANCHIONS SHALL BE INSTALLED AT 8'-0" MAX IN EACH DIRECTION. CONTRACTOR SHALL PROVIDE AT LEAST (6) STANCHIONS PER PV ARRAY. CONTRACTOR SHALL ALSO PROVIDE BRACKET STANCHIONS PRESENT IN ANY PV MODULES FROM OVERHANGING A STANCHION BY MORE THAN 3'-0". CONTRACTOR SHALL PROVIDE AND INSTALL EXPOSED STANCHIONS TO PROVIDE A FULL FUNCTIONAL PV RACKING SYSTEM AS REQUIRED BY THE PV RACKING MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
2. ROOF HATCH:
3. PV MODULES MOUNTED ON A TO STANDING SEAM METAL RACKING SYSTEM.
4. PV MODULES MOUNTED ON "SILVERBACK SOLAR A-FRAME" PVE RACK SYSTEM.
5. (1) 1 1/4" CONDUIT STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PV MODULES AND RACKING SYSTEM PROVIDE WEATHERPROOF CALKING PUTTY OR WEATHERPROOF COMPRESSION FITTING AT THE END OF CONDUIT PER JUNCTION BOX'S SPECIFICATIONS AND INSTALLATION MANUAL.
6. BOX INDICATES INVERTER NUMBER AND STRING NUMBER. FOR INV_X THE X INDICATES THE INVERTER NUMBER AND S INDICATES THE STRING NUMBER.
7. RUN PV STRUNG WIRING CONCEALED UNDER PV MODULES AND INSIDE OF RACKING SYSTEM TO PULL BOX.
8. SYMBOL REPRESENTS THE START AND END OF A PV STRING.
9. CONDUIT STUBBED BETWEEN PV ARRAYS. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT THAT IS SUFFICIENTLY LARGE ENOUGH TO FIT ALL WIRES THAT ARE REQUIRED TO BE ROUTED THROUGH THE CONDUIT. CONDUIT ROUTED UNDER ROOF BETWEEN PULL BOXES.
10. IN ORDER TO KEEP THE PATHWAYS BETWEEN THE PV ARRAYS AS CLEAR AS POSSIBLE OF OBSTRUCTIONS, CONTRACTOR SHALL INSTALL THE CONDUITS ROUTED ON THE ROOF EITHER UNDER THE PV ARRAYS OR AS CLOSE AS POSSIBLE TO THE SIDES OF THE PV ARRAYS. CONDUITS ARE ONLY SHOWN BEING ROUTED IN THE PATHWAYS FOR CLARITY.
11. 8" X 8" X 4" AT MIN. W/ 4 WEATHERPROOF PULL BOX WITH FULLY GASKETED HINGED LOCKABLE DOOR FOR PV SYSTEM MOUNTED ON RECYCLED RUBBER ROOF TO SUPPORTS. INSTALL PULL BOX PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
12. PROVIDE CONDUIT STUBBED UP THROUGH THE ROOF TO A LOCATION THAT IS CONCEALED AND DIRECTLY BELOW THE PV MODULES. CONTRACTOR SHALL PROVIDE WEATHERPROOF CALKING OR PUTTY AT THE END OF THE CONDUIT (S) AS REQUIRED.
13. PV CONDUITS (2) 1 1/4" POWER CONDUITS, 400V POWER CONDUITS FROM PV SUB PANEL ON ROOF TO PV DISCONNECT LOCATED IN ELECTRIC ROOM. SEE PV 1-PV-01 FOR ADDITIONAL INFORMATION.
14. 8" X 8" X 4" AT MIN. W/ 4 WEATHERPROOF PULL BOX WITH FULLY GASKETED HINGED LOCKABLE DOOR FOR PV SYSTEM MOUNTED ON PARAPET WALL. INSTALL PULL BOX PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
15. PROVIDE CONDUITS STUBBED UNDER THE ROOF BETWEEN PV ARRAYS. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT THAT IS SUFFICIENTLY LARGE ENOUGH TO FIT ALL WIRES THAT ARE REQUIRED TO BE ROUTED THROUGH THE CONDUIT.
16. PV POWER CONDUIT STUB UP LOCATION FROM SECOND FLOOR AWNING. SEE 1-PV-02 FOR CONTINUATION AND MORE INFORMATION.
17. CONDUIT STUBBED DOWN TO JUNCTION BOX (JB) MOUNTED UNDER THE PV MODULES ON THE COVERED WALKWAY. SEE 1-PV-02 FOR CONTINUATION AND MORE INFORMATION.
18. STUB CONDUIT THROUGH THE STANDING SEAM METAL ROOF AND ROUTE ALONG WALL TO ROOF BELOW AND THEN ROUTE CONDUIT ON RECYCLED ROOF CURBS TO A LOCATION THAT IS CONCEALED AND UNDERNEATH THE PV MODULES.
19. STUB CONDUIT THROUGH THE PARAPET WALL AND ROUTE ALONG THE WALL TO ROOF BELOW.



INTEGRAL GROUP
427 13th Street
Oakland, CA 94612
510.663.2070 Telephone
E-Mail: info@integralgroup.com
www.integralgroup.com

PTN: 61275-23
FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC_PLS_SS
DATE:

INCREMENT 2
PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
JOB NO. 70100.02
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

Δ	DATE	DESCRIPTION
	01/28/18	50% DD
	05/31/18	100% DD
	05/31/18	50% CD
1	10/17/18	ADDENDUM #1

DRAWING TITLE
PHOTOVOLTAIC ROOF PLAN

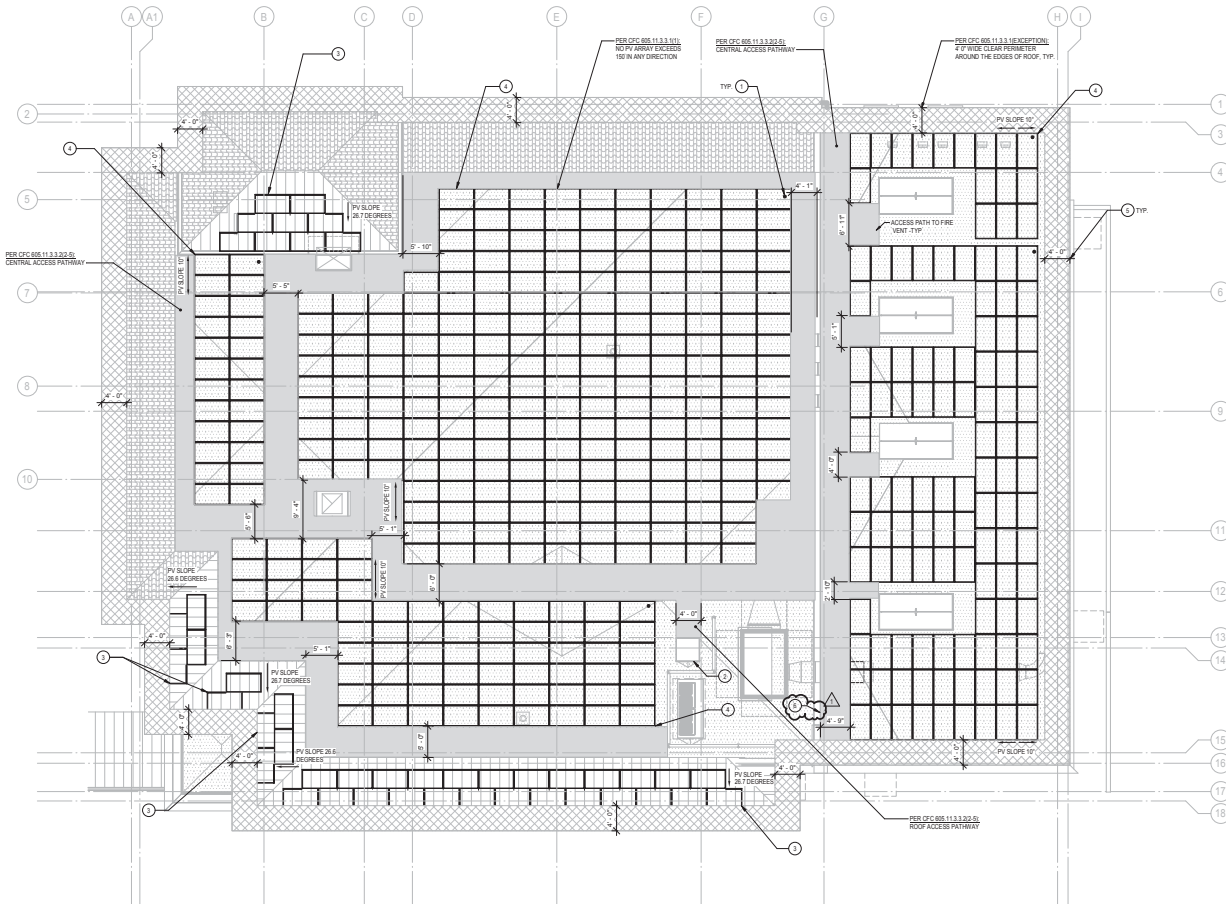
SCALE 1/8" = 1'-0"
2-PV2.03
COPYRIGHT © 2018 HKITARCHITECTS

GENERAL NOTES

A. THIS SHEET IS PROVIDED FOR REFERENCE ONLY. REFER TO OTHER SHEETS IN DRAWING SET FOR ALL INFORMATION RELATED TO THE PV SYSTEM ELECTRICAL DESIGN.

SHEET NOTES

- PV RACKING SYSTEM STANCHION.
 - ROOF HATCH.
 - PV MODULES MOUNTED FLUSH TO STANDING SEAM METAL ROOF.
 - PV MODULE MOUNTED ON "A-FRAME" PIPE RACK SYSTEM.
 - ALL DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE PV LAYOUT WITH ARCHITECT PRIOR TO FINAL ROUGH IN. REFER TO ARCHITECTURAL DRAWINGS MORE SPECIFICALLY.
1. LADDER TO UPPER ROOF.



1 PHOTOVOLTAIC ROOF PLAN-PATHWAYS
1/8" = 1'-0"



PTN: 61275-23

FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE SEAS ARCHITECT
APPL. 01-117533
AC: ____ PLS: ____ SS
DATE: ____

INCREMENT 2

PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
JOB NO. 70100.02
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

Δ	DATE	DESCRIPTION
1	10/17/18	ADDENDUM #1

DRAWING TITLE
PHOTOVOLTAIC ROOF PATHWAYS PLAN

SCALE 1/8" = 1'-0"
2-PV2.04
COPYRIGHT © 2018 HKIT ARCHITECTS

INCREMENT 2
PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
 JOB NO. 70100.02
 DRAWN Author
 CHECKED Checker
 JOB CAPTAIN Approver

DATE	DESCRIPTION
01/28/18	50% DD
05/16/18	100% DD
05/31/18	50% CD

DRAWING TITLE
PHOTOVOLTAIC FACADE

SCALE 1/4" = 1'-0"
2-PV3.01

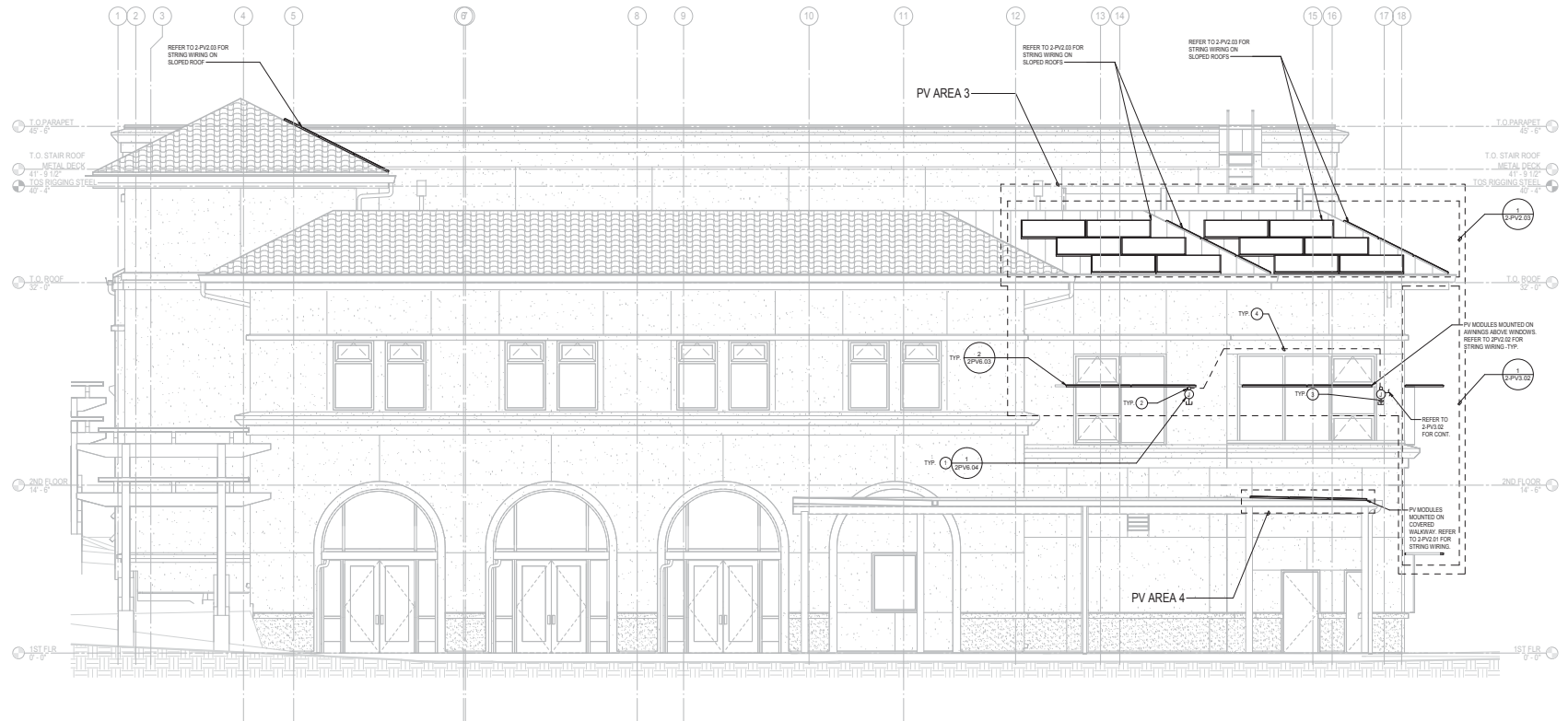
COURTESY OF AIA AND ARCHITECTS

GENERAL NOTES

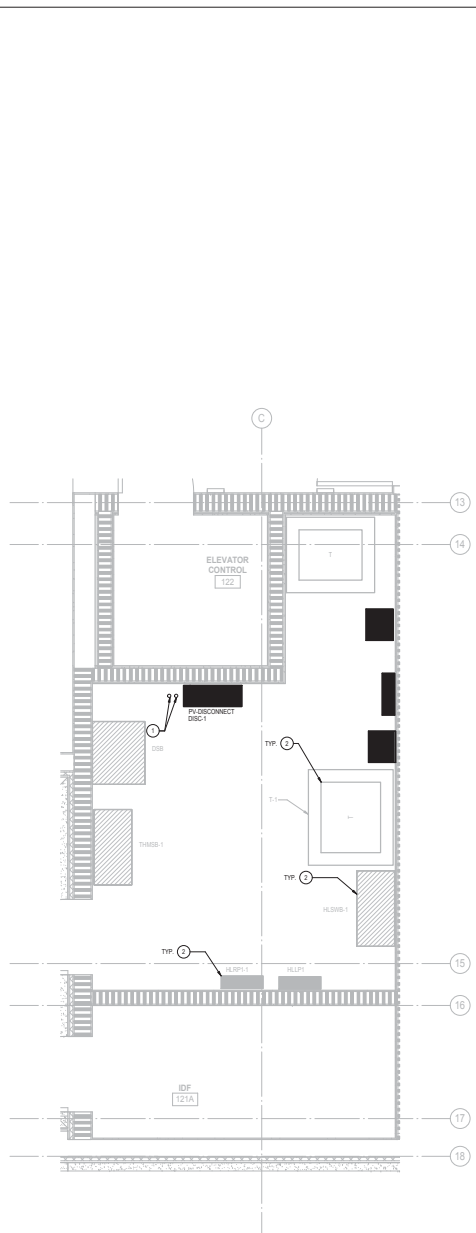
- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- REFER TO SINGLE LINE DIAGRAM FOR ALL WIRING SIZES AND QTY. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED.
- CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
- CONTRACTOR SHALL CONFIRM EXACT LAYOUT OF PVP PANELS IN FIELD. NOTIFY ENGINEER OF ANY DEVIATIONS FROM LAYOUT SHOWN PRIOR TO ROUGHING AND INSTALL.
- IF (2) OR FEWER #10 WIRING WIRES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" OR 1.5" CONDUIT.
- IF (3) OR FEWER RS-485 OR CAT 6 DATA CABLES ARE BEING ROUTED IN A CONDUIT IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER TO INSTALL 3/4" CONDUIT INSTEAD OF 1" CONDUIT.
- SEE SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNLISTED CONDUIT SUPPORTS AS REQUIRED.
- ALL PVP POWER CONDUIT(S) ROUTED IN THE INTERIOR OF THE BUILDING SHALL BE 1-1/4" UNLESS OTHERWISE NOTED.
- ALL PVP BOXES INSTALLED UNDER THE AWNINGS OR CANOPY STRUCTURES SHALL BE SIZED BY THE CONTRACTOR. US 4. ALL PVP BOXES INSTALLED SHALL COMPLY WITH NEC AND BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

SHEET NOTES

- NEMA 4 JUNCTION BOX CONCEALED UNDER PVP MODULE. CONTRACTOR SHALL COORDINATE WITH ARCHITECT PRIOR TO FINAL ROUGH-IN.
- STUB CONDUIT THROUGH EXTERIOR WALL TO JUNCTION BOX MOUNTED CONCEALED DIRECTLY UNDER PVP MODULES. CONTRACTOR SHALL PROVIDE WEATHER PROOF CAULKING AND FLASHING AS REQUIRED.
- (1 1/4" PVP POWER CONDUIT(S) STUBBED FROM JUNCTION BOX TO A LOCATION THAT IS CONCEALED UNDER THE PVP MODULES AND RACKING SYSTEM. PROVIDE WEATHER PROOF CAULKING, PUTTY OR WEATHER PROOF COMPRESSION FITTING AT END OF CONDUIT PER JUNCTION BOX SPECIFICATIONS AND INSTALLATION MANUAL. SEE SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- PVP POWER CONDUIT(S) ROUTED IN THE BUILDING FROM JUNCTION BOX INSTALLED UNDER PVP MODULES TO JUNCTION BOX INSTALLED ON THE NEXT AWNING STRUCTURE. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AS REQUIRED. SEE ELEVATION PLANS AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.



1 SIDE FACADE THEATER - PHOTOVOLTAIC
 1/4" = 1'-0"



1 PV ELECTRICAL / IDF ROOM
1/2" = 1'-0"

GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL, AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. SIZE ALL FUSES FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- C. IN FINISHED INTERIOR AREAS RUN ALL CONDUITS CONCEALED. UNLESS OTHERWISE NOTED PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
- D. STUB A MINIMUM OF 4 SPARE 3/4" CONDUITS FROM ALL NEW RECESSED PANELBOARDS TO ACCESSIBLE CEILING LOCATION.
- E. CONTRACTOR SHALL NOTE: UNLESS OTHERWISE NOTED, CONDUITS ROUTED BETWEEN EQUIPMENT IS NOT SHOWN. ONLY SOME OF THE CONDUITS ROUTES HAVE BEEN SHOWN. THIS WAS DONE FOR CLARITY ONLY. CONTRACTOR SHALL REFER TO SINGLE LINE DIAGRAMS FOR EXACT QUANTITIES AND SIZES OF CONDUITS THAT WILL BE REQUIRED TO BE ROUTED BETWEEN THE EQUIPMENT SHOWN IN ROOM OR ROOF, U.O.A.
- F. REFER TO SINGLE LINE DIAGRAM FOR MORE INFORMATION.
- G. INSTALL ALL EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- H. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.
- I. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.
- J. FOR ALL EQUIPMENT INSTALLED ON THIS SHEET CONTRACTOR SHALL PROVIDE ALL PV EQUIPMENT PER MANUFACTURER'S SPECIFICATION AND INSTALLATION MANUAL. VERIFY LOCATION WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO FINAL RISK/RAIL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL PARTS AND PIECES NECESSARY TO MAKE THE EQUIPMENT FULLY FUNCTIONAL AND TO PROVIDE FULL FUNCTIONAL PV SYSTEM.

☉ SHEET NOTES

- 1. POWER CONDUITS FROM ROOF FOR PV SYSTEM. CONDUITS STUBBED BETWEEN PV BUS PANE. ON ROOF AND PV DISCONNECT IN ELECTRICAL ROOM. REFER TO DRAWING 2P-212, PV SINGLE LINE DIAGRAM AND ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- 2. ELECTRICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS FOR ALL INFORMATION RELATED TO THE EQUIPMENT. COORDINATE FINAL EQUIPMENT LAYOUT WITH ELECTRICAL DRAWINGS PRIOR TO FINAL RISK/RAIL.



PTN: 61275-23

FILE: 1-H9
 IDENTIFICATION STAMP
 DIVISION OF THE SEALS ARCHITECT
 APPL. 01-117533
 AC _____ PLS _____ SS _____
 DATE _____

INCREMENT 2

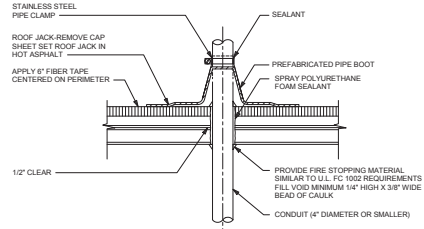
PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
 JOB NO. 70100.02
 DRAWN Author
 CHECKED Checker
 JOB CAPTAIN Approver

ISSUE		
Δ	DATE	DESCRIPTION
Δ	01/23/18	50% DD
	05/16/18	100% DD
	05/31/18	50% CD

DRAWING TITLE
PV ENLARGED PLANS

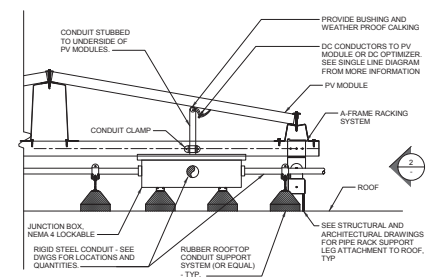
SCALE 1/2" = 1'-0"
2-PV4.01
COPYRIGHT © 2018 HKIT ARCHITECTS



- DETAILS NOTES:**
1. WEATHER PROOFING SHOWN IN DETAIL IS SHOWN FOR REFERENCE ONLY. REFER TO CONDUIT AND PIPE PENETRATION DETAILS IN ARCHITECTURAL DRAWINGS FOR ALL INFORMATION RELATED TO THE INSTALLATION OF THE WEATHERPROOFING FOR THE CONDUIT THROUGH ROOF.
 2. SIMILAR TO U.L. FIRE RESISTANCE DIRECTORY SYSTEM F.C-1002.

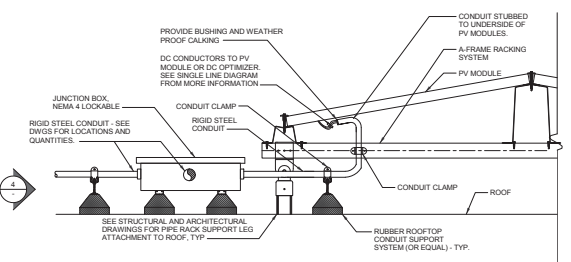
6 CONDUIT THROUGH ROOF
R.T.S.

- DETAILS NOTES:**
1. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO ATTACH OR MOUNT THE CONDUIT(S) TO PV RACKING SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS AND INSTALLATION GUIDE.
 2. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
 3. ALL HOLES DRILLED INTO PV RACKING SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR BE PER ARCHITECT'S OR OWNERS REQUIREMENTS.

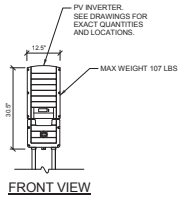
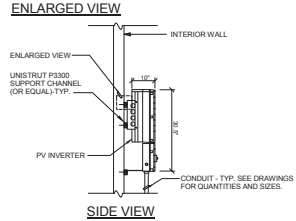
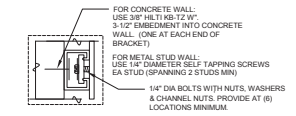


4 JUNCTION BOX AND CONDUIT INSTALLATION DETAIL SILVERBACK 'A-FRAME' RACKING SYSTEM
R.T.S.

- DETAILS NOTES:**
1. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO ATTACH OR MOUNT THE CONDUIT(S) TO PV RACKING SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS AND INSTALLATION GUIDE.
 2. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
 3. ALL HOLES DRILLED INTO PV RACKING SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR BE PER ARCHITECT'S OR OWNERS REQUIREMENTS.



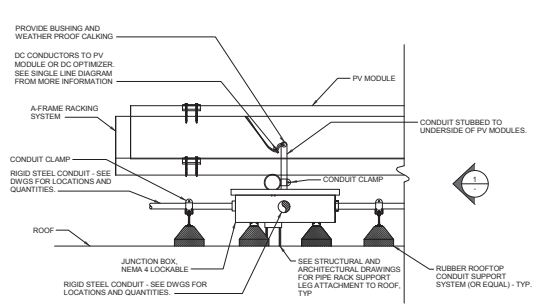
2 JUNCTION BOX AND CONDUIT INSTALLATION DETAIL SILVERBACK 'A-FRAME' RACKING SYSTEM
R.T.S.



- DETAILS NOTES:**
1. ATTACH PV EQUIPMENT TO SUPPORT CHANNELS PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
 2. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO MOUNT PV EQUIPMENT. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
 3. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.

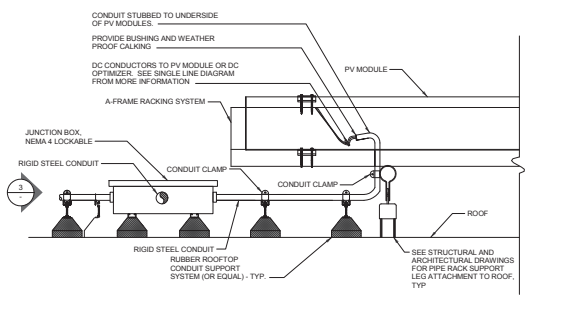
5 PV INVERTER MOUNTING DETAIL
R.T.S.

- DETAILS NOTES:**
1. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO ATTACH OR MOUNT THE CONDUIT(S) TO PV RACKING SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS AND INSTALLATION GUIDE.
 2. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
 3. ALL HOLES DRILLED INTO PV RACKING SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR BE PER ARCHITECT'S OR OWNERS REQUIREMENTS.



3 JUNCTION BOX AND CONDUIT INSTALLATION DETAIL SILVERBACK 'A-FRAME' RACKING SYSTEM
R.T.S.

- DETAILS NOTES:**
1. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO ATTACH OR MOUNT THE CONDUIT(S) TO PV RACKING SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS AND INSTALLATION GUIDE.
 2. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
 3. ALL HOLES DRILLED INTO PV RACKING SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR BE PER ARCHITECT'S OR OWNERS REQUIREMENTS.



1 JUNCTION BOX AND CONDUIT INSTALLATION DETAIL SILVERBACK 'A-FRAME' RACKING SYSTEM
R.T.S.

PTN: 61275-23
FILE: 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL: 01-117533
AC: _____ PLS: _____ SS: _____
DATE: _____

INCREMENT 2

PIEDMONT HIGH AND MILLENNIUM
ALTERNATIVE
HIGH SCHOOL -
THEATER
BUILDING

800 Magnolia Ave., Piedmont, CA 94611
JOB NO. 70100.02
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

Δ	DATE	DESCRIPTION
	01/28/18	50% DD
	05/16/18	100% DD
	05/31/18	50% CD

DRAWING TITLE
PV DETAILS

SCALE 1/8" = 1'-0"
2-PV6.02
COPYRIGHT © 2018 HKIT ARCHITECTS

ISSUE

NO.	DATE	DESCRIPTION
1	07/25/18	50% DD
	05/16/18	100% DD
	05/3/18	50% CD
1	10/17/18	ADDENDUM #1

GENERAL DETAIL NOTES FOR PV MOUNTING DETAILS :

1. RACKING SYSTEM SHOW FOR REFERENCE ONLY. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR MORE INFORMATION. CONTRACTOR SHALL REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DETAILS RELATED TO HOW THE RACKING SYSTEM ATTACHES TO THE AWNING STRUCTURE. CONTRACTOR SHALL PROVIDE THE AWNING RACKING SYSTEM FOR AAWNING STRUCTURE. INSTALL RACKING SYSTEM PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. CONTRACTOR SHALL PROVIDE AND INSTALL ALL PARTS AND PIECES NECESSARY FOR A FULLY FUNCTIONAL RACKING SYSTEM PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
2. CONTRACTOR SHALL PROVIDE AND INSTALL (4) BOLTS PER PV MODULE AS REQUIRED BY THE STRUCTURAL DRAWINGS AND IN ACCORDANCE WITH PV RACKING SYSTEM MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
3. ALL STRUCTURAL MEMBERS ARE SHOWN FOR REFERENCE ONLY. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DETAILS RELATED TO THE CANOPY STRUCTURE CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE ONE SECURITY BOLT PER PV MODULE.

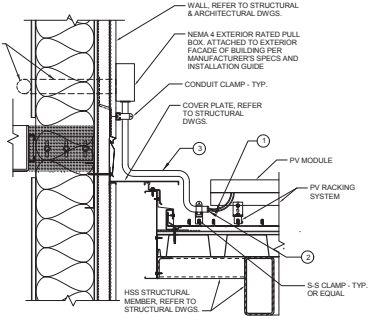
GENERAL DETAIL NOTES:

- A. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PIECES NECESSARY TO ATTACH OR MOUNT THE CONDUITS TO THE RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. U/L ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- B. UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
- C. ALL HOLES DRILLED INTO PV RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM SHALL BE PRE-DRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM OR PER ARCHITECT'S OR OWNER'S REQUIREMENTS.

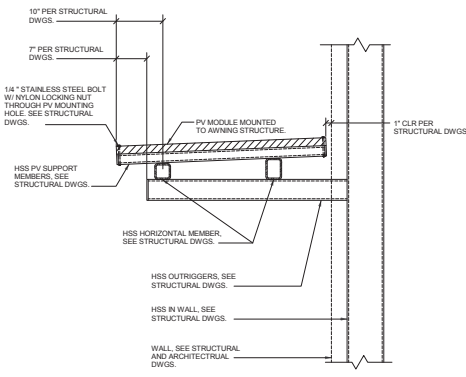
DETAIL NOTES:

1. PV STRING WIRING ROUTED BETWEEN DC OPTIMIZERS. CONCEAL PV STRING WIRING AS MUCH AS POSSIBLE AT THE TOP OF HSS STRUCTURAL MEMBER. PROVIDE WIRING SUPPORTS, MANAGEMENT CABLES, AND DEVICES AS REQUIRED TO CONCEAL PV STRING WIRING. PAINT WIRING TO MATCH SURFACE OF HSS STRUCTURAL MEMBER OR PER ARCHITECT'S REQUIREMENTS.
2. PROVIDE WEATHERPROOF CALKING OR A WEATHERPROOF COMPRESSION FITTING AT THE END OF THE CONDUIT.
3. STUB CONDUIT TO LOCATION THAT IS CONCEALED DIRECTLY UNDER THE PV MODULES AWNING STRUCTURE. PAINT CONDUIT TO MATCH EXTERIOR SURFACES OR PER ARCHITECT'S REQUIREMENTS.

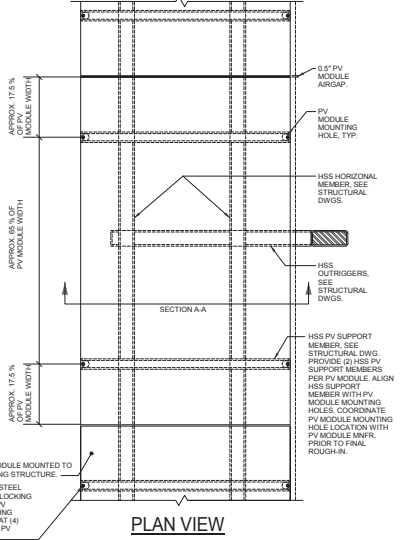
CONDUIT CONCEALED IN THE WALL. TYP. ROUTE CONDUIT TO PV INVERTER INSTALLED ON ROOF. SEE DWGS. FOR EXACT LOCATION AND QUANTITIES OF CONDUITS AND PULL BOXES.



5 COVERED WALKWAY PULL BOX INSTALLATION DETAIL
 N.T.S.

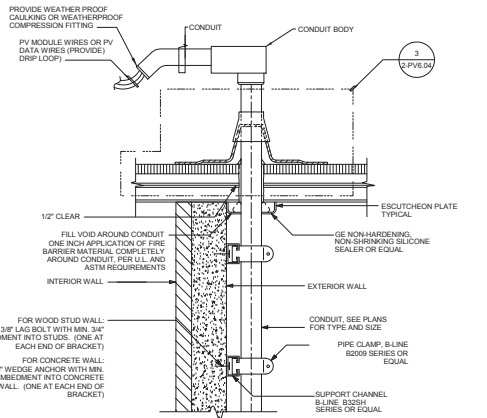


SECTION A-A



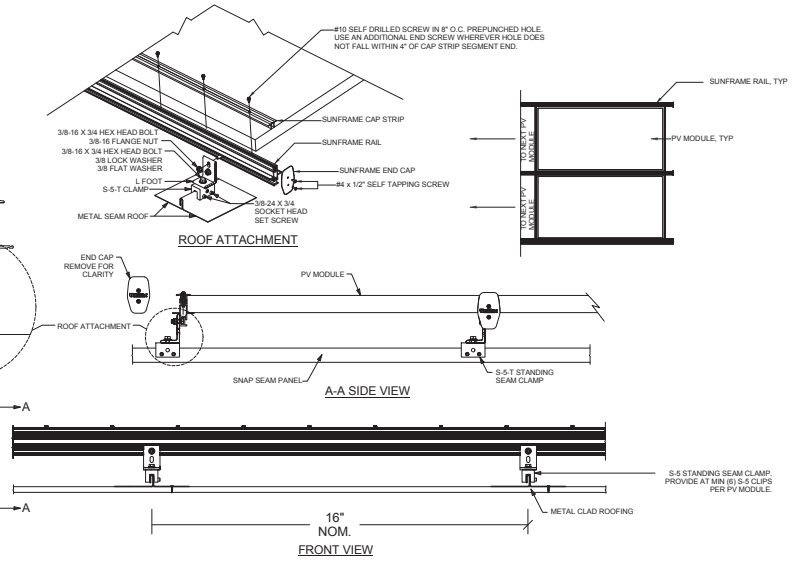
PLAN VIEW

2 PV MODULE MOUNTING - AWNING STRUCTURE
 N.T.S.



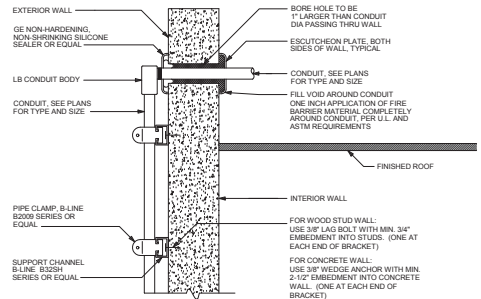
- DETAIL NOTES**
1. SIMILAR TO U.L. FIRE RESISTANCE DIRECTORY SYSTEM F-C-1022.
 2. SIMILAR TO U.L. FIRE RESISTANCE DIRECTORY SYSTEM W-J-1027.
 3. ALL COMPONENTS SHALL BE GALVANIZED.
 4. ALL CONDUIT FITTINGS SHALL BE THREADED.
 5. INSURE BENDING RADIUS PER TABLE STANDARDS.

3 CONDUIT THROUGH ROOF
 N.T.S.

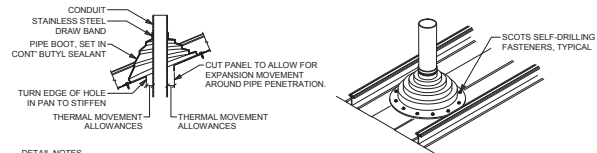


1 UNIRAC SUNFRAME DETAIL
 N.T.S.

3 CONDUIT THROUGH ROOF
 N.T.S.



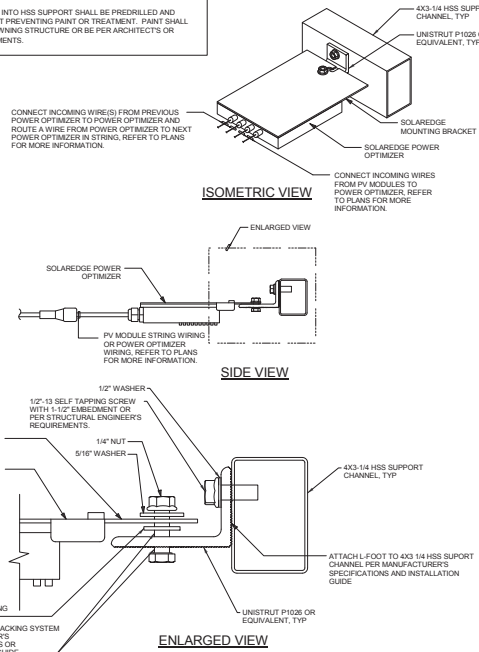
4 CONDUIT ROUTING THROUGH PARAPHET WALL
N.T.S.



3 METAL ROOF CONDUIT FLASHING
N.T.S.

DETAIL NOTES:

- INSTALL PER POWER OPTIMIZER MANUFACTURER'S AND STRUCTURAL ENGINEER'S REQUIREMENTS.
- MOUNTING BRACKET PROVIDED WITH SOLAREEDGE POWER OPTIMIZER.
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N.
- ALL HOLES DRILLED INTO HSS SUPPORT SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF AWNING STRUCTURE OR BE PER ARCHITECT'S OR OWNER'S REQUIREMENTS.



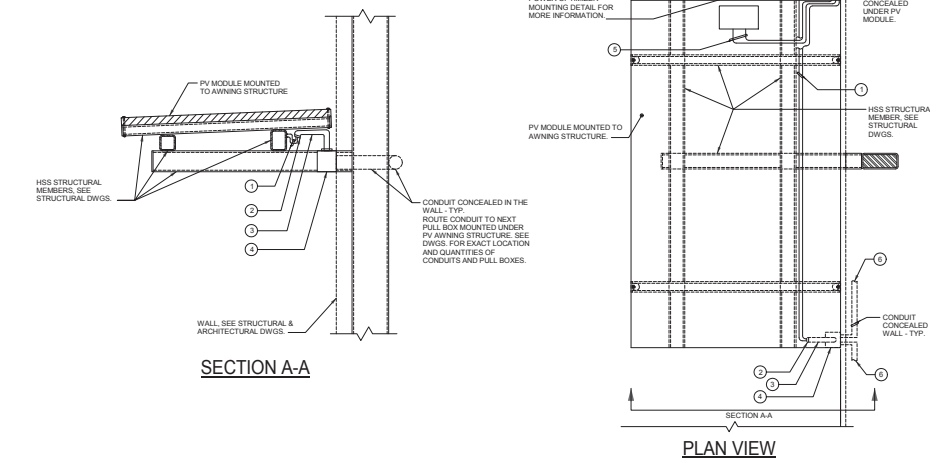
2 POWER OPTIMIZER MOUNTING DETAIL
N.T.S.

GENERAL DETAIL NOTES:

- CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ALL PARTS AND PREP WORK NECESSARY TO ATTACH OR MOUNT THE CONDUITS TO PV RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL, U.O.N. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- UNLESS OTHERWISE NOTED, CONDUIT BETWEEN ELECTRICAL EQUIPMENT IS NOT SHOWN - SEE ELECTRICAL PLANS FOR LOCATIONS AND QUANTITIES OF CONDUIT.
- ALL HOLES DRILLED INTO PV RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM FOR ATTACHING CONDUIT TO THE PV RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM SHALL BE PREDRILLED AND TREATED WITH RUST PREVENTING PAINT OR TREATMENT. PAINT SHALL MATCH FINISH OF THE RACKING SYSTEM OR STRUCTURAL SUPPORT SYSTEM OR BE PER ARCHITECT'S OR OWNER'S REQUIREMENTS.

DETAIL NOTES:

- PV STRING WIRING ROUTED BETWEEN DC OPTIMIZERS CONCEAL PV STRING WIRING AS MUCH AS POSSIBLE AT THE TOP OF HSS STRUCTURAL MEMBER. PROVIDE WIRING SUPPORTS, MANAGEMENT CABLES AND DEVICES AS REQUIRED TO CONCEAL PV STRING WIRING. PAINT WIRING TO MATCH SURFACE OF HSS STRUCTURAL MEMBER OR PER ARCHITECT'S REQUIREMENTS.
- PROVIDE WEATHERPROOF CALKING OR A WEATHERPROOF COMPRESSION FITTING AT THE END OF THE CONDUIT.
- STUB CONDUIT TO LOCATION THAT IS CONCEALED DIRECTLY UNDER THE PV MODULES ON AWNING STRUCTURE. PAINT CONDUIT TO MATCH EXTERIOR SURFACES OR PER ARCHITECT'S REQUIREMENTS.
- PULL BOX MOUNTED TO EXTERIOR FACADE OF BUILDING AT A CONCEALED LOCATION UNDER THE PV MODULES AND HSS STRUCTURAL MEMBERS SUPPORTING THE PV MODULES. REFER TO PV ROOF PLANS AND MOUNTING DETAILS FOR MORE INFORMATION. PAINT PULL BOX TO MATCH EXTERIOR SURFACES OR PER ARCHITECT'S REQUIREMENTS.
- PV STRING WIRING ROUTED BETWEEN DC OPTIMIZERS AND PV MODULES. CONCEAL PV STRING WIRING AS MUCH AS POSSIBLE UNDER PV MODULES AND HSS STRUCTURAL MEMBERS. PROVIDE WIRING SUPPORTS, MANAGEMENT CABLES AND DEVICES AS REQUIRED TO CONCEAL PV STRING WIRING WHERE POSSIBLE. PAINT WIRING TO MATCH SURFACE OF HSS STRUCTURAL MEMBER OR PER ARCHITECT'S REQUIREMENTS.
- TO NEXT PULL BOX MOUNTED UNDER PV AWNING STRUCTURE. SEE DWGS. FOR EXACT LOCATIONS AND QUANTITIES OF PULL BOXES & CONDUITS.



1 PV PULL BOX & WIRING INSTALLATION - AWNING STRUCTURE
N.T.S.

PTN: 61275-23

FILE:	1-H9
IDENTIFICATION STAMP:	
DIVISION OF THE SEALS ARCHITECT:	
APPL.:	01-117533
AC.:	PLS SS
DATE:	

INCREMENT 2
PIEDMONT HIGH AND MILLENNIUM ALTERNATIVE HIGH SCHOOL - THEATER BUILDING

800 Magnolia Ave., Piedmont, CA 94611
JOB NO. 70100.02
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver
ISSUE

DATE	DESCRIPTION

DRAWING TITLE
PV DETAILS

Integral Group
75 E Santa Clara Street
San Jose, California 95113

PUSD

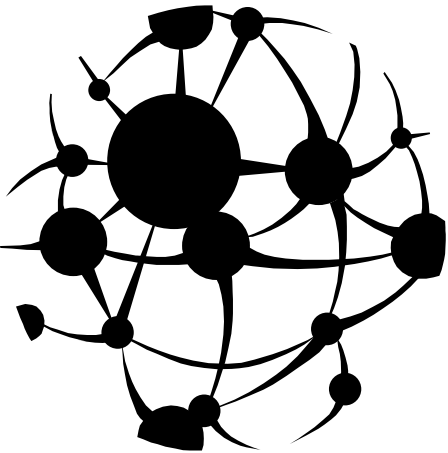
07.09.2019

Attachment 2: LTM Peak and Off-Peak Consumption Schedule

Consumption schedule for last twelve months is attached with 15-minute interval data; includes peak and off-peak usage per month. This meter currently supplies electricity for six buildings on the Piedmont High School campus, including the two buildings which are being replaced by the new STEAM and theater buildings. Exact usage for each building, including the two buildings that are being replaced, is unknown.

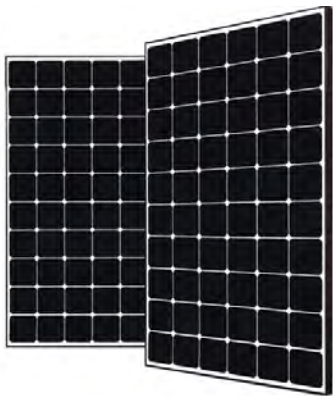
Please submit request for Attachment 2.

Attachment 3: STEAM and Theater Building Design and Projected Consumption



Design Equipment Assumptions

- **LG 365 W Modules**
- **SolarEdge (3) Phase Inverters (33.3kW, 30 kW, 20 kW, 10 KW inverter)**
- **SolarEdge DC Optimizers P800p**



LG Module

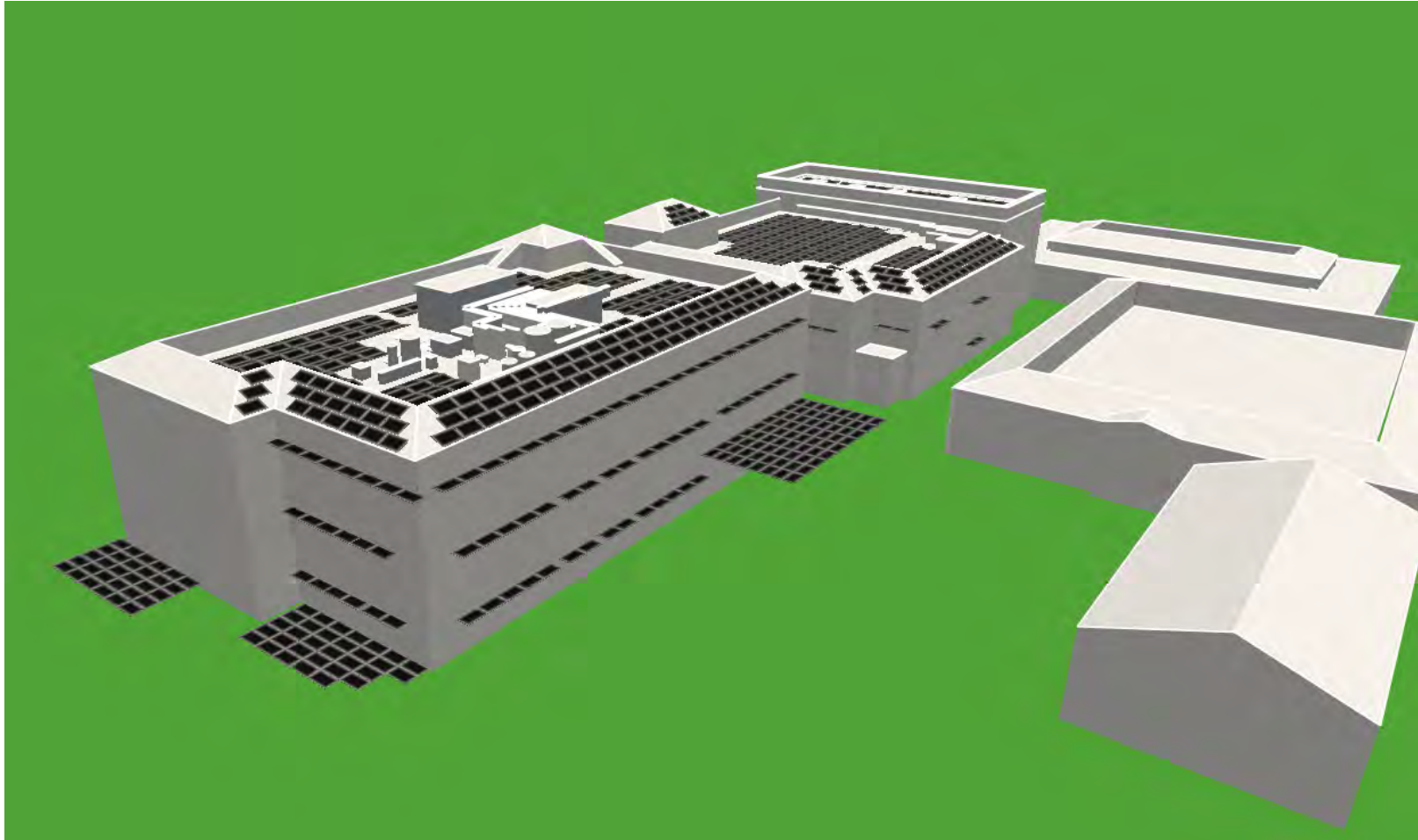


SolarEdge Inverters

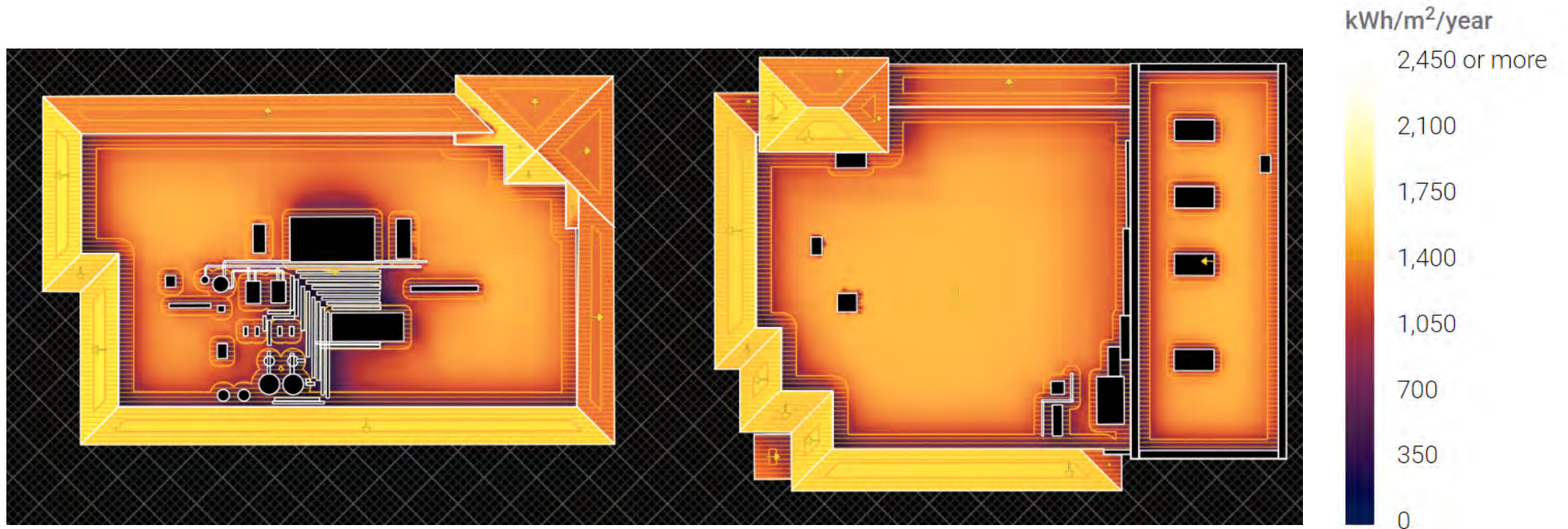


SolarEdge Optimizers

Site Model



Solar Power Potential



Project Goals

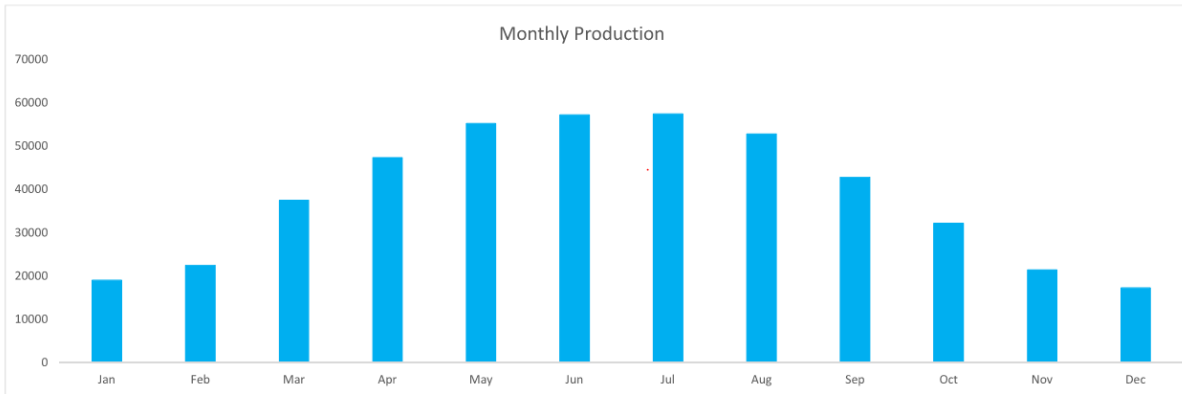
- Net Zero Energy Theater + Steam Building:

Building Consumption

	Energy Generated(kWh)
Steam Building	283,784 kWh
Server Loads	53,000 kWh
Theater Building	79,708 kWh
Total Loads (No Servers)	363,492 kWh
Total Loads (With Servers)	416,492 kWh

NZE TARGET (15%SF): 478,965 kWh

PV Production



PV ROOF DESIGNATIONS		
Roof	Solar Size (kW)	PV production (kWh)
STEAM "A-FRAME" (FLAT ROOF)	79.6	98,349
STEAM SLOPED ROOF	31.8	48,998
STEAM AWNING	28.8	27,715
STEAM CANOPY	50.0	48,050
THEATRE "A-FRAME" (FLAT ROOF)	155.5	190,255
THEATRE SLOPED ROOF	23.7	31,595
THEATRE AWNING	3.7	5,179
TOTAL	372.6	450,142

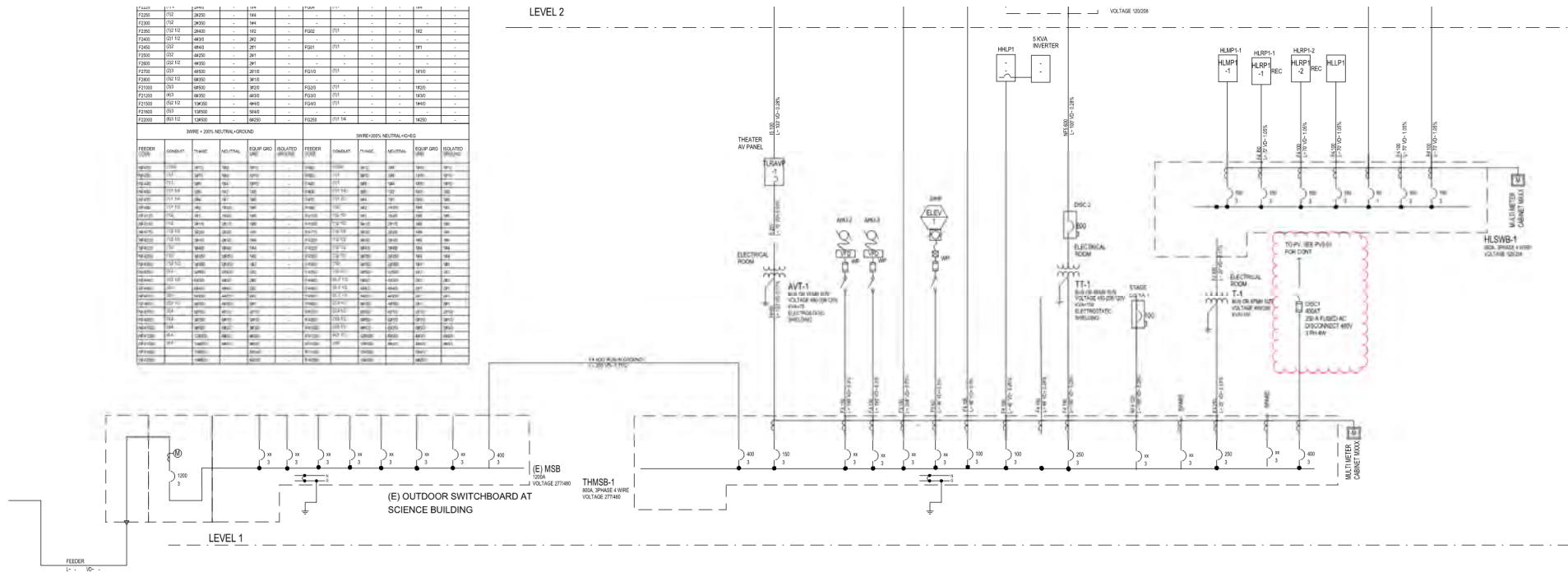
System Size: 378.87 kW

	STEAM BUILDING Energy Generated (kWh)	THEATRE BUILDING Energy Generated (kWh)	Total Energy Generated (kWh)	% NZE (With Servers)	% NZE (Without Servers)
1st Year Production	223,112	227,030	450,142	108%	124%
25 Year Production	203,032	214,065	409,629	98%	113%

PV Connection Theater

FEEDER CIRC	CONDUIT	THANE	ADJUTAL	EQUIP GRD	ISOLATED	FEEDER TYPE	CONDUIT	THANE	ADJUTAL	EQUIP GRD	ISOLATED
FW201	12	4930	-	4930	-	FW201	12	-	-	4930	-
FW202	12	4930	-	4930	-	FW202	12	-	-	4930	-
FW203	12	4930	-	4930	-	FW203	12	-	-	4930	-
FW204	12	4930	-	4930	-	FW204	12	-	-	4930	-
FW205	12	4930	-	4930	-	FW205	12	-	-	4930	-
FW206	12	4930	-	4930	-	FW206	12	-	-	4930	-
FW207	12	4930	-	4930	-	FW207	12	-	-	4930	-
FW208	12	4930	-	4930	-	FW208	12	-	-	4930	-
FW209	12	4930	-	4930	-	FW209	12	-	-	4930	-
FW210	12	4930	-	4930	-	FW210	12	-	-	4930	-
FW211	12	4930	-	4930	-	FW211	12	-	-	4930	-
FW212	12	4930	-	4930	-	FW212	12	-	-	4930	-
FW213	12	4930	-	4930	-	FW213	12	-	-	4930	-
FW214	12	4930	-	4930	-	FW214	12	-	-	4930	-
FW215	12	4930	-	4930	-	FW215	12	-	-	4930	-
FW216	12	4930	-	4930	-	FW216	12	-	-	4930	-
FW217	12	4930	-	4930	-	FW217	12	-	-	4930	-
FW218	12	4930	-	4930	-	FW218	12	-	-	4930	-
FW219	12	4930	-	4930	-	FW219	12	-	-	4930	-
FW220	12	4930	-	4930	-	FW220	12	-	-	4930	-

MARE-1 202X NEUTRAL-GROUND												MARE-202X NEUTRAL-GROUND											
FEEDER CIRC	CONDUIT	THANE	ADJUTAL	EQUIP GRD	ISOLATED	FEEDER TYPE	CONDUIT	THANE	ADJUTAL	EQUIP GRD	ISOLATED	FEEDER CIRC	CONDUIT	THANE	ADJUTAL	EQUIP GRD	ISOLATED						
MARE201	12	4930	-	4930	-	MARE201	12	-	-	4930	-	MARE201	12	-	-	4930	-						
MARE202	12	4930	-	4930	-	MARE202	12	-	-	4930	-	MARE202	12	-	-	4930	-						
MARE203	12	4930	-	4930	-	MARE203	12	-	-	4930	-	MARE203	12	-	-	4930	-						
MARE204	12	4930	-	4930	-	MARE204	12	-	-	4930	-	MARE204	12	-	-	4930	-						
MARE205	12	4930	-	4930	-	MARE205	12	-	-	4930	-	MARE205	12	-	-	4930	-						
MARE206	12	4930	-	4930	-	MARE206	12	-	-	4930	-	MARE206	12	-	-	4930	-						
MARE207	12	4930	-	4930	-	MARE207	12	-	-	4930	-	MARE207	12	-	-	4930	-						
MARE208	12	4930	-	4930	-	MARE208	12	-	-	4930	-	MARE208	12	-	-	4930	-						
MARE209	12	4930	-	4930	-	MARE209	12	-	-	4930	-	MARE209	12	-	-	4930	-						
MARE210	12	4930	-	4930	-	MARE210	12	-	-	4930	-	MARE210	12	-	-	4930	-						
MARE211	12	4930	-	4930	-	MARE211	12	-	-	4930	-	MARE211	12	-	-	4930	-						
MARE212	12	4930	-	4930	-	MARE212	12	-	-	4930	-	MARE212	12	-	-	4930	-						
MARE213	12	4930	-	4930	-	MARE213	12	-	-	4930	-	MARE213	12	-	-	4930	-						
MARE214	12	4930	-	4930	-	MARE214	12	-	-	4930	-	MARE214	12	-	-	4930	-						
MARE215	12	4930	-	4930	-	MARE215	12	-	-	4930	-	MARE215	12	-	-	4930	-						
MARE216	12	4930	-	4930	-	MARE216	12	-	-	4930	-	MARE216	12	-	-	4930	-						
MARE217	12	4930	-	4930	-	MARE217	12	-	-	4930	-	MARE217	12	-	-	4930	-						
MARE218	12	4930	-	4930	-	MARE218	12	-	-	4930	-	MARE218	12	-	-	4930	-						
MARE219	12	4930	-	4930	-	MARE219	12	-	-	4930	-	MARE219	12	-	-	4930	-						
MARE220	12	4930	-	4930	-	MARE220	12	-	-	4930	-	MARE220	12	-	-	4930	-						



PV Connection Steam

LEVEL 3

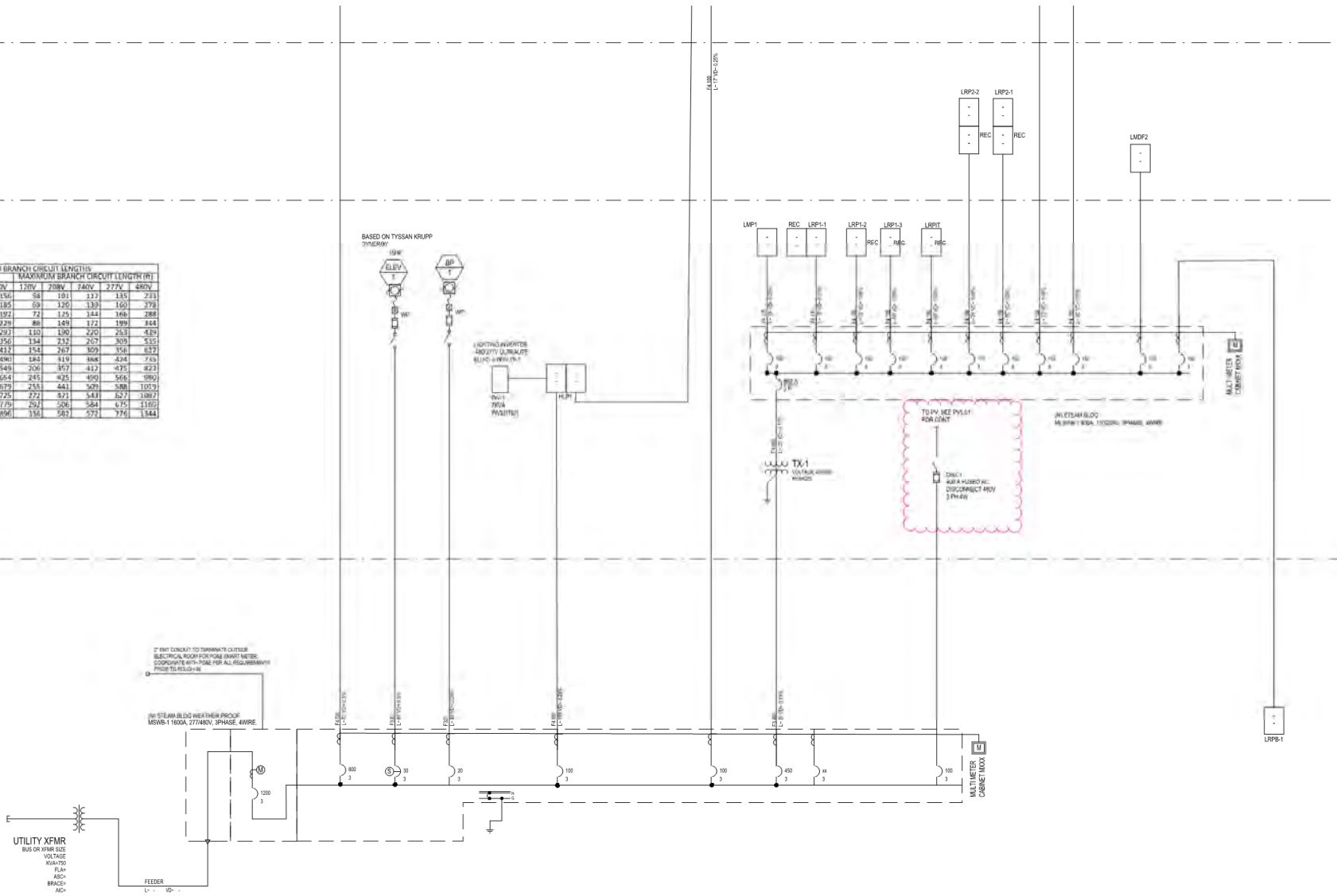
LEVEL 2

LEVEL 1

BASEMENT

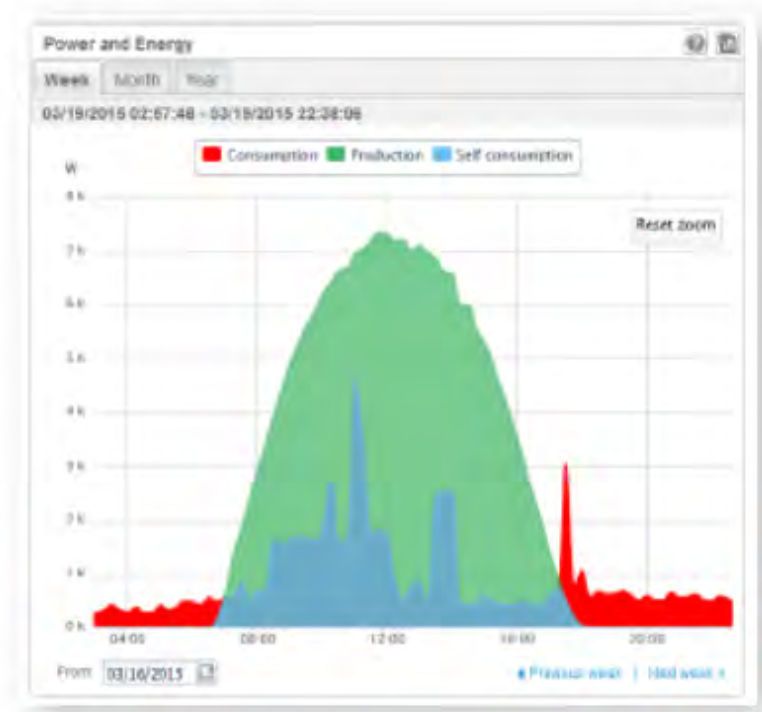
SUMMARY OF MAXIMUM FEEDER AND BRANCH CIRCUIT LENGTHS

WIRE AWG/CL	CIRCUIT AMP/CL	MAXIMUM FEEDER LENGTH (ft)					MAXIMUM BRANCH CIRCUIT LENGTH (ft)				
		120V	208V	240V	277V	480V	120V	208V	240V	277V	480V
14	25	38	61	78	91	156	58	101	133	155	213
12	30	46	80	93	107	185	69	120	159	190	278
10	35	54	96	111	127	219	82	144	188	229	333
8	40	64	118	136	155	288	98	172	224	275	404
6	50	81	154	177	201	392	120	216	282	351	509
4	60	98	188	216	244	456	144	264	342	421	591
2	75	125	240	276	312	576	174	324	414	504	696
0	100	166	324	372	420	768	216	408	516	616	840
0000	144	252	504	576	648	1152	288	540	684	828	1128
250	184	324	648	744	832	1536	360	684	864	1032	1392
350	254	456	912	1044	1176	2112	456	864	1080	1296	1728
500	350	630	1260	1440	1620	2880	600	1152	1440	1728	2304
750	500	882	1764	2016	2268	4032	840	1584	1980	2376	3168
1000	700	1224	2448	2808	3168	5664	1120	2124	2688	3240	4272



PV Monitoring

- Solaredge PV monitoring pulls data off of the inverters and DC optimizers to display real time production



Attachment 4: Form of Contract

**POWER PURCHASE AGREEMENT
FOR SOLAR FACILITIES
(IN THE FORM OF A CONTRACT FOR DESIGN AND CONSTRUCTION)
(GOVERNMENT CODE § 4217.10 ET SEQ.)**

This Power Purchase Agreement for Solar Facilities in the Form of a Contract for Design and Construction is entered into and effective _____, 20____ (“Contract”), by and between _____, Inc. (“**Designer/Builder**”) and Piedmont Unified School District (“**District**” or “**Customer**”) (individually, a “**Party**”, and collectively, the “**Parties**”).

RECITALS

WHEREAS, District owns and/or operates certain public facilities specifically described as:

	School Site Name	Address
1		
2		
3		
4		
5		
6		
7		
8		

(“**Facilities**” or “**School Site(s)**” or “**Premises**”) and District wants to reduce its Facilities’ energy costs and improve the Facilities’ energy quality/reliability by contracting to procure and to implement certain new Solar Photovoltaic (PV) systems and related equipment and materials; and

WHEREAS, Designer/Builder is a full-service energy services company with the technical capabilities to provide Solar Photovoltaic services to the District including, but not limited to, energy and energy system auditing, engineering, design, procurement, construction management, installation, construction, financing, training, monitoring and verification, maintenance, operation, and repair; and

WHEREAS, District desires that Designer/Builder design, install, construct, maintain and operate, and Designer/Builder desires to design, install, construct, maintain and operate, solar systems to be located on the School Sites;

WITNESSETH, that for and in consideration of the mutual covenants herein contained, the Parties hereto agree as follows:

CONTRACT

1. Scope of Contract.

- a. The Designer/Builder shall furnish the Services or Work (“**Services**” or “**Work**”) described in **Exhibit A** to the District and Designer/Builder will be compensated after installation of the PV System, pursuant to the Pricing Items and Payment Provisions attached hereto as **Exhibit D** (“**Contract Price**”), which provides additional terms for the payment of the Work and potential future purchase and sale of solar generated electric energy from the solar panel system described in **Exhibit F** (the “**System(s)**”) installed at the School Sites. The Design, Installation, and Construction of the System at the School Site(s) is the “**Project**.”

- b. The Project is generally described as follows:

- i. The assessment, engineering, design, permitting, procurement, construction management, installation, construction, training, monitoring, verification, maintenance, operation, and repair, of PV systems with Expected Energy Production of _____ Million kilowatt-hours (_____ kWh) of energy in year one of system operation, produced through the following systems:

Site	System Size (kW-DC)	System Type (e.g., Parking, Shade, etc.)	Expected 1 st year PV Output (kWh) ("Expected Energy")
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
TOTAL	_____	_____	_____

- ii. A data acquisition system with monitoring capability with password-protected internet access via _____.
- Work shall be completed within the time specified in **Exhibit C** ("Contract Time") from the date specified in the District's Notice(s) to Proceed, as indicated in the Schedule in **Exhibit C**, attached hereto and incorporated herein by this reference.
 - Liquidated Damages for Non-Production.** Designer/Builder agrees that if the Work is not completed within the Contract Time and/or pursuant to the Project schedule, construction schedule, or project milestones developed pursuant to provisions of the Contract, including the Schedule in **Exhibit C**, it is understood, acknowledged, and agreed that the District will suffer damage related to non-production of energy that is not capable of being calculated. Pursuant to Government Code section 53069.85, Designer/Builder shall forfeit to the District, as fixed and liquidated damages for these incalculable damages, the sum of **Thousand Dollars (\$,000.00)** per MW-DC per day for each and every calendar day of delay beyond the date of the "Designer/Builder Requests Permission to Operate Letter From Utility" specified in **Exhibit C** for each Site, provided that Designer/Builder's submission of a Request for Permission to Operate Letter From Utility shall not be effective under this paragraph unless the Project or portion thereof is presently in the condition reasonably necessary to obtain the Permission to Operate Letter From Utility. *(For example, if Designer/Builder requests "Permission to operate letter(s)" for all but the _____ Site and the _____ Site, the total liquidated damages amount during that time that these two (2) sites are not operating shall be \$_____ per calendar day (\$_____ + \$_____).* These liquidated damages apply only to the Construction portion of this Contract and not to the Operations & Maintenance Contract, as described in **Exhibit B**, or the Contract for Performance Guarantee, as described in **Exhibit G**. These liquidated damages shall be the District's sole remedy for a delay in the production of energy from the Generating Facilities pursuant to this subsection.
 - Actual Damages.** Notwithstanding the provisions herein, and in addition to the liquidated damages that the Designer/Builder forfeits pursuant to the above provision, the District may recover all of its actual damages incurred if the Work is not completed within the Contract Time and/or pursuant to the Project schedule, construction schedule, or project milestones developed pursuant to provisions of the Contract, including the Schedule in **Exhibit C**.
 - Designer/Builder shall prepare a detailed schedule of values for all of the Work that must include quantities and prices of items by site aggregating the Contract Price and must subdivide the Work into component parts

in sufficient detail to serve as the basis for progress payments during construction. This schedule of values must be approved by the District prior to it being used as a basis for payment.

6. The Designer/Builder shall not commence the Work under this Contract until the Designer/Builder has submitted and the District has approved the endorsement(s) of insurance required under the Terms and Conditions and the District has issued a Notice(s) to Proceed. The Designer/Builder shall not commence the procurement, installation, and construction portions of the Work under this Contract until the Designer/Builder has submitted and the District has approved the performance bond and the payment (labor and material) bond(s).
7. The District is performing its compliance with the California Environmental Quality Act ("CEQA"). The Parties acknowledge that construction of the Project shall not commence until the District's Board of Education has approved the Project as satisfying the requirements under CEQA. Therefore, the District reserves its right to suspend and/or terminate the Project as allowable herein if the District's Board of Education does not approve the Project under CEQA and/or exempts the Project from CEQA. The District's issuance of Notice(s) to Proceed shall be conditioned upon satisfaction of this aforementioned condition precedent. See **Exhibit C** for information regarding the Project's Schedule and the intended timing of the District's issuance of a Notice(s) to Proceed.
8. This Contract incorporates by this reference the Terms and Conditions attached hereto. The Designer/Builder, by executing this Contract, agrees to comply with all the Terms and Conditions.
9. The Contract includes only the following documents ("Contract Documents"), as indicated:

<u> X </u> Terms and Conditions to Contract	<u> X </u>	Exhibit A (Scope of Work)
<u> X </u> Noncollusion Declaration	<u> X </u>	Exhibit B (Operations & Maintenance Contract)
<u> X </u> Prevailing Wage Certification		
<u> X </u> Workers' Compensation Certification	<u> X </u>	Exhibit C (Detailed Construction Schedule or Project Schedule for Each Site)
<u> X </u> Criminal Background Investigation Certification		
<u> X </u> Drug-Free Workplace / Tobacco-Free Environment Certification	<u> X </u>	Exhibit D (Pricing Items and Payment Provisions)
<u> X </u> Asbestos & Other Hazardous Materials Certification	<u> X </u>	Exhibit E (Schedule of Values)
<u> X </u> Lead-Product(s) Certification	<u> X </u>	Exhibit F (Initial Layout and Staging Documents and List of Plans and Specifications)
<u> X </u> Insurance Certificates and Endorsements		
<u> X </u> Performance Bond (District's Form)	<u> X </u>	Exhibit G (Performance Guarantee Parameters and Energy Output Data)
<u> X </u> Payment Bond (District's Form)	<u> X </u>	Exhibit H (Warranties)
	<u> X </u>	Exhibit I (Additional Contract Documents)

- a. **Interpretation of Contract Documents:** Questions concerning the intent, precedence, or meaning of the Contract Documents, including the Plans, Specifications and Drawings, shall be resolved by giving precedence in the following order:
 1. District-approved modifications, beginning with the most recent (if any);
 2. This base Contract's provisions;
 3. The Exhibits;
 4. Figured dimensions;
 5. Large-scale drawings;

6. Small-scale drawings.

10. Purchase and Sale of Electricity.

- a. District shall purchase from Designer/Builder, and Designer/Builder shall sell to District, all of the electric energy generated by the System during the Term. Electric energy generated by the System will be delivered to District at the delivery point identified on **Exhibit F** (the “**Delivery Point**”).
- b. As part of each portion of the System and as part of its Services, Designer/Builder shall install one or more meter(s) for the portion of the System at each Site, at or immediately before the Delivery Point(s) at each Site to measure the output of the System (“**Meter(s)**”). Those meter(s) shall meet all the specifications of this Contract which must, at a minimum, meet the general commercial standards of the solar photovoltaic industry or the required standard of the Utility. Designer/Builder shall maintain the meter(s) as part of the System.
- c. District shall take title to the electric energy generated by the System at the Delivery Point, and risk of loss will pass from Designer/Builder to District at the Delivery Point. District may purchase electric energy for the Site(s) from other sources if the District’s electric requirements at the Site(s) exceed the output of the System.
- d. Any purchase, sale and/or delivery of electric energy generated by the System prior to the Commercial Operation Date shall be at no charge to the District and will be considered test energy only and shall not indicate that the System has been put in commercial operation by the purchase, sale and/or delivery of that test energy. The “Commercial Operation Date” for each portion of the System at each Site is the date that the Utility issues a Permission to Operate Letter for that Site.

11. Billing and Payment.

- a. **Monthly Charges.** District shall pay Designer/Builder monthly for the electric energy generated by the System and delivered to the Delivery Point at the \$/kWh rate shown in **Exhibit D**. The monthly payment for such energy will be equal to the applicable \$/kWh rate multiplied by the number of kWh of energy generated during the applicable month, as measured by the System Meter(s).
- b. **Monthly Invoices.** Designer/Builder shall invoice District monthly, either manually or through _____. Such monthly invoices shall state:
 - i. the amount of electric energy produced by the System and delivered to the Delivery Point,
 - ii. the rates applicable to, and charges incurred by, District under this Agreement and
 - iii. the total amount due from District.
- c. **Taxes.** District shall either pay or reimburse Designer/Builder for any and all taxes assessed on the generation, sale, delivery or consumption of electric energy produced by the System or the interconnection of the System to the Utility’s electric distribution system, including property taxes on the System; provided, however, District will not be required to pay or reimburse Designer/Builder for any taxes during periods when Designer/Builder fails to deliver electric energy to District due to the action or omission of Designer/Builder. For purposes of this Section 4(c), “Taxes” means any federal, state and local ad valorem, property, occupation, generation, privilege, sales, use, consumption, excise, transaction, and other taxes, regulatory fees, surcharges or other similar charges, but shall not include any income taxes or similar taxes imposed on Designer/Builder’s revenues due to the sale of energy under this Agreement, which shall be Designer/Builder’s responsibility.
- d. **Payment Terms.** District shall pay all undisputed amounts of each Monthly Energy Payment within sixty (60) days from receipt by the District. Any undisputed portion of the invoice amount not paid

within this sixty (60) day period shall accrue interest at the annual rate equal to one percent (1.0%) over the then current prime rate, as published in the Wall Street Journal, but in no case shall this interest rate exceed the maximum rate permitted by law. Any disputes related to the Monthly Energy Payment shall be resolved pursuant to the dispute provisions of this Agreement. Under no circumstances will a dispute over an invoice amount be considered a default under this Agreement.

12. Term of Agreement and Related Items

- a. **Initial Term.** The initial term (“**Initial Term**”) of this Agreement shall be for twenty-five (25) years, commencing on the date when:
 - i. The Utility issues the Permission to Operate Letter or similar document for the all portions of the System of the Project;
 - ii. All Systems at each Site are under an approved and executed Utility Interconnection Agreement or similar document with the Utility; and
 - iii. All other portions of the Project including landscape, paint, hardscape, commissioning, and training are complete.
- b. Any power generated by the System prior to the commencement of the Initial Term shall be at no cost to the District.
- c. **Additional Terms.** If District has not exercised its option to purchase the System by the end of the Initial Term as provided in Section 3(a) herein, the District may, at its sole discretion, extend this Agreement by providing the Designer/Builder written notice of the District’s desire to extend this Agreement on the terms and conditions set forth herein for an additional period of five (5) years.
 - i. There shall be no more than two (2) additional periods (“**Additional Term(s)**”; collectively, with the Initial Term, the “**Term**”).
 - ii. The District’s notice shall be given, if at all, not less than ninety (90) days before the last day of the Initial Term or the then current Additional Term, as applicable.
- d. The Initial Term or any Additional Term may be terminated as indicated herein. In addition, this Contract terminates upon the District’s exercise of its option to purchase the System as indicated herein.

13. District Grants a License to the Premises to the Designer/Builder

- a. District grants to Designer/Builder and to Designer/Builder’s agents, employees, contractors and assignees, including the Designer/Builder, a non-exclusive license running with the Premises (the “**License**”) for access to, on, over, under and across the Premises for the purposes of:
 - i. Installing, constructing, operating, owning, maintaining, accessing, removing and replacing the System;
 - ii. Performing all of Designer/Builder’s obligations and enforcing all of Designer/Builder’s rights set forth in this Agreement, including the operations and maintenance services during the term of the O&M Agreement; and
 - iii. Installing, using and maintaining electric lines and equipment, including inverters and meters necessary to interconnect the System to District’s electric system at the Sites, to the Utility’s electric distribution system, if any, or for any other purpose that may from time to time be useful

or necessary in connection with the construction, installation, operation, maintenance or repair of the System.

14. Designer/Builder hereby acknowledges that the Division of the State Architect (“**DSA**”) and the District’s DSA Project Inspector(s) (“**Inspector**” or “**IOR**”) have authority to approve and/or stop Work if the Designer/Builder’s Work does not comply with the requirements of the Contract, Title 24 of the California Code of Regulations, and all applicable laws. The Designer/Builder shall be liable for any delay caused and extra work required by its non-compliant Work. Designer/Builder shall not be liable for delay caused solely by the District.
15. Inspection and acceptance of the Work shall be performed by the District’s Project Inspector with whom the District will contract and the District’s staff or construction manager.
16. Designer/Builder recognizes that the District has obtained the services of a construction manager for this Project. The construction manager is authorized to give Designer/Builder Services authorizations, and issue written approvals and notices on behalf of District. The District reserves the right to designate a different construction manager at any time. Any task, including, but not limited to, reviews or approvals that the District may perform pursuant to this Contract may be performed by the construction manager, unless that task indicates it shall be performed by the governing board of the District.
17. Unless otherwise indicated herein for a longer period of time, the Designer/Builder shall guarantee all labor and material used in the performance of this Contract for a period of one year from the date of the District’s written approval of the Work.
18. Designer/Builder shall perform all Work related to its design to the standard of care of professionals performing similar work for California school districts in or around the same geographic area of the District, and all Work related to its installation and construction to the standard of care of contractors performing similar work for California school districts in or around the same geographic area of the District.
19. By signing this Contract, Designer/Builder certifies, under penalty of perjury, that all the information provided in the Contract is true, complete, and correct, to the best of its knowledge.
20. Information regarding Designer/Builder:

Type of Business Entity:
 Individual
 Sole Proprietorship
 Partnership
 Limited Partnership
 Corporation
 Limited Liability Company
 Other: _____

Fed. ID (FEIN) #: _____ Employer Identification and/or Social Security Number NOTE: United States Code, title 26, sections 6041 and 6109 require non-corporate recipients of \$600 or more to furnish their taxpayer identification number to the payer. The United States Code also provides that a penalty may be imposed for failure to furnish the taxpayer identification number. In order to comply with these rules, the District requires your federal tax identification number or Social Security number, whichever is applicable.

ACCEPTED AND AGREED on the date indicated below:

Dated: _____, 20__

Piedmont Unified School District

Signature: _____

Print Name: _____

Print Title: _____

Address: _____

Telephone: _____

E-Mail: _____

Dated: _____, 20__

_____, **[Designer/Builder]**

Signature: _____

Print Name: _____

Print Title: _____

Cal. Contractor License No.: _____

Civil Engineer License: _____

Architect License: _____

Address: _____

Telephone: _____

E-Mail: _____

Notice. Any notice required or permitted to be given under this Contract shall be deemed to have been given, served, and received if given in writing and either personally delivered or sent by overnight delivery service addressed to the above individuals. Any notice personally given shall be effective upon receipt. Any notice sent by overnight delivery service shall be effective the business day next following delivery thereof to the overnight delivery service.

FORM OF AGREEMENT

TERMS AND CONDITIONS TO CONTRACT

1. **NOTICE(S) TO PROCEED:** District shall provide Notice(s) to Proceed to Designer/Builder pursuant to the Contract at which time Designer/Builder shall proceed with the Work. The District reserves the right to issue multiple Notices to Proceed related to the Project, either by scope and/or by Site.
2. **SITE EXAMINATION:**
 - 2.1. The District will provide all information available to it to the extent the information relates to Designer/Builder's scope of work. This information includes:
 - 2.1.1. Physical characteristics;
 - 2.1.2. Legal limitations and utility locations for the Project site(s);
 - 2.1.3. Written legal description(s) of the Project site(s);
 - 2.1.4. Grades and lines of streets, alleys, pavements, and adjoining property and structures;
 - 2.1.5. Adjacent drainage;
 - 2.1.6. Rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, and boundaries and contours of the Project site(s);
 - 2.1.7. Locations, dimensions and necessary data with respect to existing buildings, other improvements and trees;
 - 2.1.8. Information concerning available utility services and lines, mechanical and other services, both public and private, above and below grade, including inverts and depths;
 - 2.1.9. Surveys, reports, as-built drawings;
 - 2.1.10. Subsoil data, chemical data, and other data logs of borings;
 - 2.1.11. DSA Numbers for all buildings, as necessary to obtain DSA approval of plans to be submitted by Designer/Builder under the contracted scope of work.
 - 2.1.12. The location and physical characteristics of existing utility lines, telephone, water, sewage, storm drains and other lines on or around or relating to the Project.
 - 2.2. Designer/Builder has Visually Verified the existence of the conditions identified by this information to the extent determinable by the documents provided by the District ("Site Examination"). Designer/Builder has relied on its Site Examination in defining its scope of Work or Services.
 - 2.3. **"Visually Verified"** (or **"Verify"**) means confirmed by diligent physical inspection without any destructive or invasive action.
 - 2.4. If there are any variations to the scope of Work or Services resulting from conditions not determinable from Visually Verified information, the Designer/Builder shall submit to the District a proposed change order ("**PCO**") based on those conditions, with a detailed explanation based on the current Scope of Work and how it requires a revision based on Designer/Builder's Visual Verification and Site Examination.
 - 2.5. No claim for allowance of time or money will be allowed as to any other undiscovered condition on the Site that could and should have been discovered through these site examination activities. Notwithstanding the aforementioned, should the Designer/Builder discover any latent or unknown conditions, which will materially affect the performance of the Work hereunder, Designer/Builder shall immediately inform the District of that fact in writing and shall not proceed until written instructions are received from the District. This written notice may take the form of a PCO.
3. **EQUIPMENT AND LABOR:** The Designer/Builder shall furnish all tools, equipment, apparatus, facilities, transportation, labor, and material necessary to furnish the Services herein described, the Services to be

performed at times and places as directed by and subject to the approval of the authorized District representative indicated in the Work specifications attached hereto.

4. **SUBCONTRACTORS:** Subcontractors, if any, engaged by the Designer/Builder for any Service or Work under this Contract shall be subject to the approval of the District, which shall not be unreasonably withheld. Designer/Builder agrees to bind every subcontractor by the terms of the Contract as far as those terms are applicable to subcontractor's work, including, without limitation, all indemnification, insurance, bond, and warranty requirements. If Designer/Builder shall subcontract any part of this Contract, Designer/Builder shall be fully responsible to the District for acts and omissions of its subcontractor and of persons either directly or indirectly employed by itself. Nothing contained in the Contract shall create any contractual relations between any subcontractor and the District.

5. **OWNERSHIP; OPTION TO PURCHASE.**

5.1. **Ownership of System.** Throughout the Term and subject to assignment as permitted herein, Designer/Builder shall be the legal and beneficial owner of the System at all times, including all Environmental Attributes (unless otherwise specified herein), and the System shall remain the personal property of Designer/Builder and shall not attach to or be deemed a part of, or fixture to, the Sites or the Premises.

5.1.1. The Designer/Builder and the District each agree that the Designer/Builder (or the designated assignee of Designer/Builder as permitted herein) is the tax owner of the System and all tax filings and reports will be filed in a manner consistent with this Contract. The System shall at all times retain the legal status of personal property as defined under Article 9 of the Uniform Commercial Code.

5.1.2. District will use commercially reasonable efforts to place all parties having an interest in or a mortgage, pledge, lien, charge, security interest, encumbrance or other claim of any nature on the Sites or the Premises on notice of the ownership of the System and the legal status or classification of the System as personal property. If there is any mortgage or fixture filing against the Premises that could reasonably be construed as prospectively attaching to the System as a fixture of the Premises, District shall provide a disclaimer or release from such lienholder.

5.1.3. As the fee owner of the Premises, District consents to the Designer/Builder's filing of a disclaimer of the System as a fixture of the Premises in the office where real estate records are customarily filed in the jurisdiction where the Site(s) are located.

5.2. **Option to Purchase.** At the end of the sixth (6th) and tenth (10th) years of the Initial Term and at the end of the Initial Term and each Additional Term, District may purchase the System or any individual Site back from Designer/Builder for a purchase price equal to the Fair Market Value of the System or the Site. District must provide a notification to Designer/Builder of its intent to purchase the System at least ninety (90) days prior to the date the District identifies as the purchase date.

5.2.1. Any such purchase shall be on an as-is, where-is basis, and Designer/Builder shall not provide any warranty or other guarantee regarding the performance of the System, provided, however, that Designer/Builder shall assign to District any manufacturers warranties that are in effect as of the purchase, and which are assignable pursuant to their terms.

5.2.2. If District is in default of the Contract as that term is defined herein, District may still exercise its right to purchase the System if District cures its default.

5.2.3. **Determination of Fair Market Value.** The fair market value of the System means the price that would be negotiated in an arm's-length, free market transaction, for cash, between an informed, willing seller and an informed, willing buyer (other than the user currently in possession), neither of whom is under compulsion to complete the transaction, for the purchase of the System as removed from the Sites on which they are located at the date of determination, de-installed, packed, crated and ready for shipment to such buyer (the "Fair

Market Value”). The Fair Market Value for the System at all Sites shall be the value determined by the mutual agreement of District and Designer/Builder within sixty (60) days after District’s notification to Designer/Builder of its intent to purchase the System. If District and Designer/Builder cannot mutually agree to a Fair Market Value, then District and Designer/Builder shall select a nationally recognized independent appraiser with experience and expertise in the solar photovoltaic industry to value the System. That appraiser shall act reasonably and in good faith to determine the Fair Market Value and shall set forth such determination in a written opinion delivered to Designer/Builder and District. The valuation made by the appraiser shall be binding on District and Designer/Builder in the absence of fraud or manifest error. The costs of the appraisal shall be borne by District and Designer/Builder equally. If District and Designer/Builder are unable to agree on the selection of an appraiser, a third appraiser shall be selected by two appraiser firms proposed by each Party. The appraiser shall be given one hundred and twenty (120) days to complete the appraisal and, unless the District determines not to purchase the System, the purchase shall be finalized within thirty (30) days of date of the appraisal.

- 5.2.4. Upon the exercise of the foregoing purchase option with respect to the System at all Sites plus receipt of the then Fair Market Value and all other amounts then owing by District to Designer/Builder with respect to the System at all Sites, Designer/Builder shall execute all bills of sale and other instruments necessary (including any documents in recordable form that are required to terminate the easements and other rights granted under the Grant of Easement) to cause title to the System to pass to District as-is, where-is, free and clear of any liens or other encumbrances placed on the System by Designer/Builder.
- 5.2.5. The Parties shall act in good faith to extend or shorten these time requirements to efficiently and reasonably complete the purchase.
- 5.2.6. Upon purchase of the System, District will assume complete responsibility for the operation and maintenance of the System and liability for the performance of the System, and Designer/Builder shall have no further liabilities or obligations hereunder.

6. ENVIRONMENTAL ATTRIBUTES AND ENVIRONMENTAL INCENTIVES.

- 6.1. Unless otherwise indicated herein, Designer/Builder is the owner of all Environmental Attributes and Environmental Incentives and is entitled to the benefit of all Tax Credits, and District’s purchase of electricity under this Contract does not include Environmental Attributes, Environmental Incentives or the right to Tax Credits or any other attributes of ownership and operation of the System, all of which shall be retained by Designer/Builder.
- 6.2. District shall cooperate with Designer/Builder in obtaining, securing and transferring all Environmental Attributes and Environmental Incentives and the benefit of all Tax Credits, including by using reasonable efforts to use the electric energy generated by the System in a manner necessary to qualify for such available Environmental Attributes, Environmental Incentives and Tax Credits. District shall not be obligated to incur any out-of-pocket costs or expenses in connection with such actions unless reimbursed by Designer/Builder. If any Environmental Incentives are paid directly to District, District shall immediately pay such amounts over to Designer/Builder.
- 6.3. **“Environmental Attributes”** means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the System, the production of electrical energy from the System and its displacement of conventional energy generation, including (a) any avoided emissions of pollutants to the air, soil or water such as sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and other pollutants; (b) any avoided emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere; and (c) the reporting rights related to these

avoided emissions, such as Green Tag Reporting Rights and Renewable Energy Credits. Green Tag Reporting Rights are the right of a party to report the ownership of accumulated Green Tags in compliance with federal or state law, if applicable, and to a federal or state agency or any other party, and include Green Tag Reporting Rights accruing under Section 1605(b) of The Energy Policy Act of 1992 and any present or future federal, state, or local law, regulation or bill, and international or foreign emissions trading program. Environmental Attributes do not include Environmental Incentives and Tax Credits. Without limiting the generality of the foregoing, Environmental Attributes include carbon trading credits, renewable energy credits or certificates, emissions reduction credits, emissions allowances, green tags tradable renewable credits and Green-e® products.

- 6.4. **“Environmental Incentives”** means any and all credits, rebates, subsidies, payments or other incentives that relate to self-generation of electricity, the use of technology incorporated into the System, environmental benefits of using the System, or other similar programs available from the Utility, any other regulated entity, the manufacturer of any part of the System or any Governmental Authority.
- 6.5. **“Governmental Authority”** means any national, state or local government (whether domestic or foreign), any political subdivision thereof or any other governmental, quasi-governmental, judicial, public or statutory instrumentality, authority, body, agency, bureau or entity (including the Federal Energy Regulatory Commission or the California Public Utilities Commission), or any arbitrator with authority to bind a party at law.
- 6.6. **“Tax Credits”** means any and all (a) investment tax credits, (b) production tax credits and (c) similar tax credits or grants under federal, state or local law relating to the construction, ownership or production of energy from the System.

7. DESIGNER/BUILDER’S RIGHTS AND OBLIGATIONS.

- 7.1. **Permits and Approvals.** Except for the Designer/Builder’s obligations to obtain and maintain licenses, permits, and related authorizations as indicated in **Exhibit A**, Designer/Builder shall use commercially reasonable efforts to obtain, at its sole cost and expense, the following agreements, permits and approvals. District shall cooperate with Designer/Builder’s reasonable requests to assist Designer/Builder in obtaining these agreements, permits and approvals:
- 7.1.1. Any zoning, land use and building permits required to construct, install and operate the System; and
- 7.1.2. Any agreements and approvals from the Utility necessary in order to interconnect the System to the Premises electrical system and/or the Utility’s electric distribution system.
- 7.2. **Standard System Repair and Maintenance.** Designer/Builder shall construct and install the System at the Facility. During the Term, Designer/Builder will operate and perform all routine and emergency repairs to, and maintenance of, the System at its sole cost and expense, except for any repairs or maintenance resulting from District’s negligence, willful misconduct or breach of this Contract. Designer/Builder shall (A) have the appropriate experience and ability to operate and maintain photovoltaic solar systems and the financial capability to do same (an “Operator”); or (B) enter into a contract with an Operator, pursuant to which (1) such Operator shall be responsible for System operation and maintenance under this Contract and (2) Operator shall administer all rights (including access rights to the Facility) and obligations of Designer/Builder on behalf of Designer/Builder under this Contract. Designer/Builder shall not be responsible for any work done by others on any part of the System unless Designer/Builder authorizes that work in advance in writing or if it is performed by any Operator. Designer/Builder shall not be responsible for any loss, damage, cost or expense arising out of or resulting from improper environmental controls or improper operation or maintenance of the System by anyone other than Designer/Builder or Designer/Builder’s contractors, including any Operator. If the System requires repairs for which District is responsible, District shall either perform the repairs to the Designer/Builder’s reasonable satisfaction or pay Designer/Builder for diagnosing and correcting the problem at Designer/Builder or Designer/Builder’s contractors’ then current

standard rates. Designer/Builder shall provide District with written, forty-eight (48) hour notice prior to entering the Site for any reason. In the case of an emergency or an imminent danger that could cause damage or harm to persons or property, Designer/Builder can enter the Premises immediately to address the emergency and mitigate the potential damage or harm.

- 7.3. **Non-Standard System Repair and Maintenance.** If Designer/Builder incurs incremental costs to maintain the System due to conditions at the Facility or due to the inaccuracy of any information provided by District and relied upon by Designer/Builder, the pricing, schedule and other terms of this Contract will be equitably adjusted to compensate for any work in excess of normally expected work required to be performed by Designer/Builder.
- 7.4. **Breakdown Notice.** Designer/Builder shall notify District within twenty-four (24) hours following Designer/Builder's discovery of (i) any material malfunction in the operation of the System or (ii) an interruption in the supply of electrical energy from the System. District and Designer/Builder shall each designate personnel and establish procedures such that each Party may provide notice of such conditions requiring Designer/Builder's repair or alteration at all times, twenty-four (24) hours per day, including weekends and holidays. District shall notify Designer/Builder immediately upon the discovery of an emergency condition affecting the System.
- 7.5. **Suspension.** Notwithstanding anything to the contrary herein, Designer/Builder shall be entitled to suspend delivery of electricity from the System to the Delivery Point for the purpose of maintaining and repairing the System and such suspension of service shall not constitute a breach of this Contract; provided, however, that Designer/Builder shall not be entitled, without prior notice, to suspend delivery of electricity from the System to the Delivery Point for a period in excess of forty-eight (48) day light hours as defined by the United States National Weather Service in the area where the System is located. Designer/Builder shall use diligent efforts to minimize any interruption in service to the District.
- 7.6. **Liens and Payment of Contractors and Suppliers.** Designer/Builder shall pay when due all valid charges from all contractors, subcontractors and suppliers supplying goods or services to Designer/Builder under this Contract and shall keep the Facility free and clear of any liens related to such charges, except for those liens which Designer/Builder is permitted by law to place on the Facility following non-payment by District of amounts due under this Contract. Designer/Builder shall indemnify District for all claims, losses, damages, liabilities and expenses resulting from any liens filed against the Facility or the Premises in connection with such charges; provided, however, that Designer/Builder shall have the right to contest any such lien, so long as it provides a statutory bond or other reasonable assurances of payment that either remove such lien from title to the Facility and the Premises or that assure that any adverse judgment with respect to such lien will be paid without affecting title to the Facility and the Premises. Notwithstanding any provision to the contrary, Designer/Builder shall remove any liens on any portion of the Site if upon the District's thirty (30) day notification to Designer/Builder that the lien is negatively impacting the District's need to utilize the Site for collateral, justification, or any other demonstrated need to have the lien removed.

8. DISTRICT'S RIGHTS AND OBLIGATIONS.

- 8.1. **Facility Access Rights.** District grants to Designer/Builder and to Designer/Builder's agents, employees and contractors an irrevocable non-exclusive license running with the Premises (the "License") for access to, on, over, under and across the Premises for the purposes of (a) installing, constructing, operating, owning, maintaining, accessing, removing and replacing the System; (b) performing all of Designer/Builder's obligations and enforcing all of Designer/Builder's rights set forth in this Contract; and (c) installing, using and maintaining electric lines and equipment, including inverters and meters, necessary to interconnect the System to District's electric system at the Facility and/or to the utility's electric distribution system or that otherwise may from time to time be useful or necessary in connection with the construction, installation, operation, maintenance or repair of the System. Designer/Builder shall notify District prior to entering the Facility except in situations where there is imminent risk of damage to persons or property. The term of the License shall

continue until the date that is one hundred and twenty (120) days following the date of expiration or termination of this Contract (the "License Term"). During the License Term, District shall ensure that Designer/Builder's rights under the License and Designer/Builder's access to the Premises are preserved and protected and shall not interfere with or permit any third parties to interfere with such rights or access. The grant of the License shall survive termination of this Contract by either Party. District agrees that Designer/Builder, upon request to District, may record a memorandum of license in the land records respecting the License in form and substance reasonably acceptable to the Parties.

- 8.2. **OSHA Compliance.** Designer/Builder and, to the extent applicable, District shall ensure that all Occupational Safety and Health Act (OSHA) requirements and other similar applicable safety laws or codes are adhered to in their performance under this Contract.
- 8.3. **Maintenance of Facility.** District shall, at its sole cost and expense, maintain the Facility in good condition and repair. District will ensure that the Facility remains interconnected to the local Utility grid at all times and will not permit cessation of electric service to the Facility from the local Utility. District is fully responsible for the maintenance and repair of the Facility's electrical system and of all of District's equipment that utilizes the System's outputs. District shall properly maintain in full working order all of District's electric supply or generation equipment that District may shut down while utilizing the System. District shall promptly notify Designer/Builder of any matters of which it is aware pertaining to any damage to or loss of use of the System or that could reasonably be expected to adversely affect the System.
- 8.4. **No Alteration of Facility.** District shall not make any alterations or repairs to the Facility which may adversely affect the operation and maintenance of the System without Designer/Builder's prior written consent. If District wishes to make such alterations or repairs, District shall give prior written notice to Designer/Builder, setting forth the work to be undertaken (except for emergency repairs, for which notice may be given by telephone), and give Designer/Builder the opportunity to advise District in making such alterations or repairs in a manner that avoids damage to the System, but, notwithstanding any such advice, District shall be responsible for all damage to the System caused by District or its contractors. To the extent that temporary disconnection or removal of the System is necessary to perform such alterations or repairs, such work and any replacement of the System after completion of District's alterations and repairs shall be done by Designer/Builder or its contractors at District's cost. All of District's alterations and repairs will be done in a good and workmanlike manner and in compliance with all applicable laws, codes and permits.
- 8.5. **Outages.**
- 8.5.1. District shall be permitted to be off line for a total of forty-eight (48) day light hours as defined by the United States National Weather Service in the area where the System is located (each, a "Scheduled Outage") per calendar year during the Term, during which time District shall not be obligated to accept or pay for electricity from the System; provided, however, that District must notify Designer/Builder in writing of each such Scheduled Outage at least forty-eight (48) hours in advance of the commencement of a Scheduled Outage.
- 8.5.2. In the event that Scheduled Outages exceed a total of forty-eight (48) day light hours as defined by the United States National Weather Service in the area where the System is located per calendar year or there are unscheduled outages, in each case for a reason other than a Force Majeure event, Designer/Builder shall reasonably estimate the amount of electricity that would have been delivered to District during such excess Scheduled Outages or unscheduled outages and shall invoice District for such amount ("Estimated Payment.") and any associated lost or recaptured Environmental Incentives and lost sales (and penalties payments associated with the same) of associated Environmental Attributes in accordance with Section 6. For avoidance of doubt, the forty-eight (48) hour period shall include all Scheduled Outage hours allowed under any of the terms of this Contract, including those

undertaken pursuant to Section 8(d). For this Contract, determination of the Estimated Payment shall be based, during the first Contract Year, on the estimated levels of production and, after the first Contract Year, based on actual operation of the System in the same period in the previous Contract Year, unless Designer/Builder and District mutually agree to an alternative methodology.

- 8.5.3. Notwithstanding the foregoing, if at any time during the Term, the District's Facility requires upgrades, modernization, construction, alteration or significant repairs that require the District to schedule a temporary shutdown of the System greater than a Scheduled Outage (each, an "Extended Outage"), then the Parties shall negotiate in good faith to reach mutually agreeable terms to accommodate such Extended Outage, with the standard accommodation being Designer/Builder shall equitably adjust the Contract Price for the remainder of the Term, subject to reasonable and objectively justifiable bases for adjusting this standard accommodation. The District reserves the right to instead pay the Estimated Payment for each Extended Outage.
- 8.6. **Liens.** District shall not directly or indirectly cause, create, incur, assume or allow to exist any mortgage, pledge, lien, charge, security interest, encumbrance or other claim of any nature on or with respect to the System or any interest therein. District shall immediately notify Designer/Builder in writing of the existence of any such mortgage, pledge, lien, charge, security interest, encumbrance or other claim, shall promptly cause the same to be discharged and released of record without cost to Designer/Builder, and shall indemnify Designer/Builder against all costs and expenses (including reasonable attorneys' fees) incurred in discharging and releasing any such mortgage, pledge, lien, charge, security interest, encumbrance or other claim.
- 8.7. **Security.** District shall be responsible for using commercially reasonable efforts to maintain the physical security of the Facility and the System against known risks and risks that reasonably should have been known by District. District will not conduct activities on, in or about the Premises or the Facility that have a reasonable likelihood of causing damage, impairment or otherwise adversely affecting the System.
- 8.8. **Insolation.** District understands that unobstructed access to sunlight ("Insolation") is essential to Designer/Builder's performance of its obligations and a material term of this Contract. District shall not in any way cause and, where possible, shall not in any way permit any interference with the System's Insolation. If District becomes aware of any activity or condition that could diminish the Insolation of the System, District shall notify Designer/Builder immediately and shall cooperate with Designer/Builder in preserving the System's existing Insolation levels. The Parties agree that reducing Insolation would irreparably injure Designer/Builder, that such injury may not be adequately compensated by an award of money damages, and that Designer/Builder is entitled to seek specific enforcement of this Section against District.
- 8.9. **Breakdown Notice.** District shall promptly notify Designer/Builder following the discovery by District of anything adversely affecting the System, including a material malfunction, interruption in the supply of electrical energy or discovery of an emergency condition of which District should reasonably be aware.

9. RELOCATION OF SYSTEM.

- 9.1. If (i) District ceases to conduct business operations at and/or vacates the Facility or (ii) Designer/Builder is prevented from operating the System at the Facility (through no fault of Designer/Builder) or (iii) the System is otherwise prevented from delivering electricity (through no fault of Designer/Builder), in each case prior to the expiration of the Term, District shall have the option to provide Designer/Builder with a mutually agreeable substitute premises located within the same Utility district as the terminated System or in a location with similar utility rates and Insolation ("Substitution"). District shall provide written notice at least sixty (60) days prior to the date that it wants to make this Substitution.

- 9.2. In connection with such Substitution, District and Designer/Builder shall in good faith negotiate and execute an amended agreement that shall have all of the same terms as this Contract except for the (i) Effective Date; (ii) License, which will be amended to grant rights in the real property(ies) where the System is relocated to; and (iii) Term, which will be the remainder of the Term of this Contract and such amended agreement shall be deemed to be a continuation of this Contract without termination. District shall also provide any new District, owner, lessor or mortgagee consents or releases required by Designer/Builder or Designer/Builder's Financing Parties in connection with the substitute facility(ies).
- 9.3. In connection with such Substitution, District shall pay all reasonable costs associated with relocation of the System, including all costs and expenses incurred by or on behalf of Designer/Builder in connection with removal of the System from the Facility and installation and testing of the System at the substitute facility(ies) and all applicable interconnection fees and expenses at the substitute facility(ies), as well as costs of new title search and other out-of-pocket expenses connected to preserving and refiling the security interests of Designer/Builder's Financing Parties in the System.
- 9.4. Designer/Builder shall calculate the Estimated Payment the amount of electricity that would have been delivered to District during the period of time the System is not in operation due to the relocation ("Relocation Period") and shall invoice District for such amount and any associated lost or recaptured Environmental Incentives and lost sales (and penalties payments associated with the same) of associated Environmental Attributes in accordance with Section 6. Alternatively, at the District's request, the Parties shall negotiate in good faith to reach mutually agreeable terms to accommodate such Relocation Period whereby the Designer/Builder shall equitably adjust the Contract Price for the remainder of the Term, subject to reasonable and objectively justifiable bases for adjusting this standard accommodation. Designer/Builder shall remove the System from the vacated Facility prior to the termination of District's ownership, lease or other rights to use such Facility. At the District's request and reasonable expense, Designer/Builder shall restore the Facility to its prior condition except for normal wear and tear.
- 9.5. If the Substitution has inferior Insulation as compared to the original Facility, Designer/Builder shall have the right to make an adjustment to Exhibit D such that District's payments to Designer/Builder are the same as if the System were located at the original Facility. If District is unable to provide such substitute facility(ies) and to relocate the System as provided, any early termination will be treated as a default by District.

10. REMOVAL OF SYSTEM AT EXPIRATION. Upon the expiration or earlier termination of this Contract (provided District does not exercise its purchase option(s), Designer/Builder shall, at its expense, remove all of its tangible property comprising the System from the Facility on a mutually convenient date, but in no event later than ninety (90) days after the expiration of the Term; or earlier termination of this Contract (provided District does not exercise its purchase option). Excluding ordinary wear and tear, the Facility shall be returned to its original condition including the removal of System mounting pads or other support structures. Designer/Builder shall leave the Facility in neat and clean order. If Designer/Builder fails to remove or commence substantial efforts to remove the System by such agreed upon date, District shall have the right, at its option, to remove the System to a public warehouse and restore the Facility to its original condition (other than ordinary wear and tear) at Designer/Builder's cost. District shall provide sufficient space for the temporary storage and staging of tools, materials and equipment and for the parking of construction crew vehicles and temporary construction trailers and facilities reasonably necessary during such removal.

11. MEASUREMENT. Electricity delivered to the Facility shall be measured by a District-approved monitoring system installed and maintained by Designer/Builder as part of the System. Electricity produced by the System shall be measured by the District-approved monitoring system installed and maintained by Designer/Builder as part of the System. All delivery and production information shall be shared with District at District's request.

12. DEFAULT, REMEDIES AND DAMAGES.

12.1. **Default.** Any Party that fails to perform its responsibilities as listed below or experiences any of the circumstances listed below shall be deemed a “Defaulting Party”, the other Party shall be the “Non-Defaulting Party” and each event of default shall be a “Default Event”:

12.1.1. failure of a Party to pay any amount due and payable under this Contract, other than an amount that is subject to a good faith dispute, within thirty (30) days following receipt of written notice from the Non-Defaulting Party of such failure to pay (“Payment Default”);

12.1.2. failure of a Party to substantially perform any other material obligation under this Contract within thirty (30) days following receipt of written notice from the Non-Defaulting Party demanding such cure; provided, that such thirty (30) day cure period shall be extended (but not beyond ninety (90) days) if and to the extent reasonably necessary to cure the Default Event, if (i) the Defaulting Party initiates such cure within the thirty (30) day period and continues such cure to completion and (ii) there is no material adverse effect on the Non-Defaulting Party resulting from the failure to cure the Default Event;

12.1.3. if any representation or warranty of a Party proves at any time to have been incorrect in any material respect when made and is material to the transactions contemplated hereby, if the effect of such incorrectness is not cured within thirty (30) days following receipt of written notice from the Non-Defaulting Party demanding such cure;

12.1.4. District loses its rights to occupy and enjoy the Premises;

12.1.5. a Party, or its guarantor (if any) becomes insolvent or is a party to a bankruptcy, reorganization, insolvency, liquidation, receivership, dissolution, winding-up or relief of debtors, or any general assignment for the benefit of creditors or other similar arrangement or any event occurs or proceedings are taken in any jurisdiction with respect to the Party which has a similar effect (or, if any such actions are initiated by a third party, such action(s) is(are) not dismissed within ninety (90) days); or

12.2. **Remedies.**

12.2.1. Remedies for Payment Default. If a Payment Default occurs, the Non-Defaulting Party may suspend performance of its obligations under this Contract. Further, the Non-Defaulting Party may pursue any remedy under this Contract, at law or in equity, including an action for damages and termination of this Contract, upon thirty (30) days prior written notice to the Defaulting Party following the Payment Default.

12.2.2. Remedies for Other Defaults. On the occurrence of a Default Event other than a Payment Default, the Non-Defaulting Party may pursue any remedy under this Contract, at law or in equity, including an action for damages and termination of this Contract, upon thirty (30) days prior written notice to the Defaulting Party following the occurrence of the Default Event. Nothing herein shall limit either Party’s right to collect damages upon the occurrence of a breach or a default by the other Party that does not become a Default Event. Notwithstanding anything in this Contract to the contrary, if District terminates this Contract without cause prior to commencement of System installation, then District shall owe Designer/Builder a \$5,000 design cancellation fee, in addition to actual material procurement costs incurred by Designer/Builder that were approved by District; provided, however, that District shall not also be liable for the Termination Payment.

12.2.3. Damages Upon Termination by Default. Upon a termination of this Contract by the Non-Defaulting Party as a result of a Default Event by the Defaulting Party, the Defaulting Party shall pay a Termination Payment to the Non-Defaulting Party determined as follows (the “Termination Payment”):

12.2.4. District.

If District is the Defaulting Party and Designer/Builder terminates this Contract after

commencement of System installation but prior to the Commercial Operation Date, the Termination Payment to Designer/Builder shall be equal to the sum of:

- 12.2.4.1. Documented costs incurred by District towards the installation of the System plus ten percent (10%) of such costs,
- 12.2.4.2. Documented financing costs associated with the costs incurred by District towards the installation of the System up until the date such System is removed, but excluding any anticipated profit, return on investment, or expected income to Designer/Builder's Financing Parties;
- 12.2.4.3. Documented removal costs as indicated in the "Relocation of System" and "Removal of System at Expiration" Sections herein; and
- 12.2.4.4. Any and all other documented amounts previously accrued under this Contract and then owed by District to Designer/Builder.

If District is the Defaulting Party and Designer/Builder terminates this Contract after the Commercial Operation Date, the Termination Payment shall be equal to the sum of: (i) the termination value set forth in Exhibit D (the "Termination Value") for such Contract Year, (ii) removal costs as provided in the "Relocation of System" and "Removal of System at Expiration" Sections herein; and (iii) all other amounts previously accrued under this Contract and then owed by District to Designer/Builder. The Parties agree that actual damages to Designer/Builder in the event this Contract terminates prior to the expiration of the Term as the result of a Default Event by District would be difficult to ascertain, and the applicable Termination Value set forth in Exhibit D and as otherwise outlined above is a reasonable approximation of the damages suffered by Designer/Builder as a result of early termination of this Contract. The Termination Payment shall not be less than zero (0).

12.2.5. Designer/Builder. If Designer/Builder is the Defaulting Party and District terminates this Contract, the Termination Payment to District shall be equal to the sum of (i) the present value (using a discount rate of 7%) of the excess, if any, of the reasonably expected cost of electric energy from the utility over the Contract Price for the reasonably expected production of the System for the remainder of the Initial Term or the then current Additional Term, as applicable; (ii) all costs reasonably incurred by District in re-converting its electric supply to service from the utility; (iii) any removal costs incurred by District; and (iv) any and all other amounts previously accrued under this Contract and then owed by Designer/Builder to District. The Termination Payment shall not be less than zero.

12.2.6. Obligations Following Termination. If a Non-Defaulting Party terminates this Contract pursuant to this "Default, Remedies and Damages" section, then following such termination, Designer/Builder shall, at the sole cost and expense of the Defaulting Party, remove the equipment constituting the System. The Non-Defaulting Party shall take all commercially reasonable efforts to mitigate its damages as the result of a Default Event.

13. SYSTEM DAMAGE AND INSURANCE.

13.1. **System Damage**. If the System is damaged or destroyed other than by District's negligence, willful misconduct or breach of this Contract, Designer/Builder shall promptly repair and restore the System to its pre-existing condition; provided, however, that if more than fifty percent (50%) of the System is destroyed during the last two (2) years of the Initial Term or during any Additional Term, Designer/Builder shall not be required to restore the System, but may instead terminate this Contract without liability, unless District agrees to pay for the cost of restoration of the System or purchase the System in its "AS-IS" condition at a price that is no greater than the Fair Market Value of the System in its then damaged or destroyed condition.

13.2. **Insurance Coverage**. At all times during the Term, Designer/Builder and District shall maintain the following insurance:

- 13.2.1. **Designer/Builder's Insurance.** Designer/Builder shall maintain (i) property insurance on the System for the replacement cost thereof, (ii) commercial general liability insurance with coverage of at least \$1,000,000 per occurrence and \$2,000,000 annual aggregate, (ii) professional liability insurance on a claims-made form with coverage of at least \$1,000,000 per claim and \$2,000,000 annual aggregate, (iii) employer's liability insurance with coverage of at least \$1,000,000 and (iv) workers' compensation insurance as required by law.
- 13.2.2. **District's Insurance.** District shall maintain commercial general liability insurance with coverage of at least \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
- 13.3. **Policy Provisions.** All insurance policies provided hereunder shall (i) contain a provision whereby the insurer agrees to give the party not providing the insurance thirty (30) days written notice before the insurance is cancelled, or terminated, (ii) be written on an occurrence basis, (iii) be maintained with companies either rated no less than A-VII as to Policy Holder's Rating in the current edition of A.M. Best's Insurance Guide or otherwise reasonably acceptable to the other party.
- 13.4. **Certificates/Endorsements.** Upon the other Party's request each Party shall deliver to the other Party certificates of insurance evidencing the above required coverage and/or policy endorsements. A Party's receipt, review or acceptance of such certificate shall in no way limit or relieve the other Party of the duties and responsibilities to maintain insurance as set forth in this Contract.
- 13.5. **Deductibles.** Unless and to the extent that a claim is covered by an indemnity set forth in this Contract, each Party shall be responsible for the payment of its own deductibles.
- 14. SAFETY AND SECURITY:** Designer/Builder is responsible for maintaining safety in the performance of this Contract. Designer/Builder shall be responsible to ascertain from the District the rules and regulations pertaining to safety, security, and driving on school grounds, particularly when children are present, as per **Exhibit I**. In the event that the aforementioned rules conflict with the terms of this Contract, the terms of this Contract shall prevail.
- 15. CHANGE IN SCOPE OF WORK:**
- 15.1. **Change Orders.** A change order ("**Change Order**") is a written instrument prepared and issued by the District and signed by the District (as authorized by the District's governing board) and the Designer/Builder, and approved by the Project Inspector (if necessary) and DSA (if necessary), stating their agreement regarding all of the following:
- 15.1.1. A description of a change in the Work or Services;
- 15.1.2. The amount of the adjustment in the Contract Price, if any; and
- 15.1.3. The extent of the adjustment in the Contract Time, if any.
- 15.2. There shall be no change whatsoever in the Services or Work, or any architectural enhancements, without an executed Change Order or Construction Change Directive as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Services or Work except pursuant to a Change Order or Construction Change Directive. Except as provided elsewhere in this Contract, no extension of time for performance of the Work shall be allowed hereunder unless duly adjusted in writing in the Change Order. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Work or Services.
- 15.3. Designer/Builder shall perform all Work that has been authorized by a fully executed Change Order in the timeframe set forth therein.
- 15.4. Should any Change Order result in an increase in the Contract Price, the cost of that Change Order shall be agreed to in the Change Order. Except as provided elsewhere in this Contract, if Designer/Builder proceeds with any change in Work without a Change Order, Designer/Builder waives any claim of additional compensation or time for that additional work.
- 15.5. Designer/Builder understands, acknowledges, and agrees that the reason for District authorization is

so that District may have an opportunity to analyze the Work and decide whether the District shall proceed with the Change Order or alter the Project so that a change in Work becomes unnecessary.

- 15.6. **Price Request.** A price request is a written request prepared by the District requesting the Designer/Builder to submit to the District an estimate of the effect of a proposed change in the Work on the Contract Price and the Contract Time. A price request shall contain adequate information, including any necessary Work or Services, to enable Designer/Builder to provide the cost breakdowns required herein.
- 15.7. **Proposed Change Order.** A proposed change order (“PCO”) is a written request prepared by the Designer/Builder requesting that the District issue a Change Order based upon a proposed change to the Work or Services. A PCO shall include breakdowns pursuant to the revisions herein to validate any change in Contract Price.
- 15.7.1. **Changes in Time.** A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in the Contract Documents. If Designer/Builder fails to request a time extension in a PCO, then the Designer/Builder is thereafter precluded from requesting time and/or claiming a delay, except as otherwise provided in this Contract.
- 15.7.2. **Unknown and/or Unforeseen Conditions.** If Designer/Builder submits a PCO requesting an increase in Contract Price and/or Contract Time that is based at least partially on Designer/Builder’s assertion that Designer/Builder has encountered condition(s) on the Project that it could not have discovered in performing its “Site Examination” duties herein, then Designer/Builder shall base the PCO on visually verifiable information that demonstrates that the hitherto unknown and/or unforeseen condition(s) actually exist. If not, the District may deny the PCO and the Designer/Builder shall complete the Project without any increase in Contract Price and/or Contract Time based on that PCO.
- 15.8. **Format for Proposed Change Order.** The following format shall be used as applicable by the District and the Designer/Builder (e.g. Change Orders, PCO’s) to communicate proposed additions and deductions to the Contract, supported by attached documentation.

	SUBCONTRACTOR PERFORMED WORK	ADD	DEDUCT
(a)	Material (attach itemized quantity and unit cost plus sales tax)		
(b)	Add Labor (attach itemized hours and rates, fully encumbered)		
(c)	Add Equipment (attach suppliers’ invoice)		
(d)	SUBTOTAL		
(e)	Add Subcontractor’s overhead and profit , not to exceed ten percent (10%) of item (d)		
(f)	SUBTOTAL		
(g)	Add Designer/Builder’s fee, overhead, profit & general conditions , not to exceed five percent (5.0%) of the sum of item (f)		
(h)	SUBTOTAL		
(i)	Add Bond and Insurance , not to exceed one and one half percent (1.5%) of Item (h)		
(j)	TOTAL		
(k)	Time		_____ Days

	DESIGNER/BUILDER PERFORMED WORK	ADD	DEDUCT
(a)	Material (attach itemized quantity and unit cost plus sales tax)		
(b)	Add Labor (attach itemized hours and rates, fully encumbered)		

(c)	Add Equipment (attach suppliers' invoice)		
(d)	SUBTOTAL		
(e)	Add Designer/Builder's fee, overhead, profit & general conditions , not to exceed ten percent (10.0%) of the sum of item (d)		
(f)	SUBTOTAL		
(i)	Add Bond and Insurance , not to exceed one and one half percent (1.5%) of item (f)		
(j)	TOTAL		
(k)	Time		Days

- 15.9. **Change Order Certification.** All Change Orders and PCOs must include the following certification by the Designer/Builder: *The undersigned Designer/Builder approves the foregoing as to the changes, if any, and the Contract Price specified for each item and as to the extension of time allowed, if any, for Project Completion, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Designer/Builder knows are false are at the sole risk of Designer/Builder and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by District staff with delegated authority, and will be ratified by the governing board of the District. It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Designer/Builder's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages, or time extensions not included are deemed waived.*
- 15.10. **Determination of Change Order Cost.** The amount of the increase or decrease in the Contract Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:
- 15.10.1. District acceptance of a PCO;
 - 15.10.2. By amounts contained in Designer/Builder's schedule of values, if applicable;
 - 15.10.3. By agreement between District and Designer/Builder.
- 15.11. **Construction Change Directives / Unilateral Change Orders.** A Construction Change Directive (or Unilateral Change Order) is a written order prepared and issued by the District and signed by the District, directing a change in the Work. The District may as provided by law, by Construction Change Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions. The District may only issue a Construction Change Directive in the absence of agreement on the terms of a Change Order, and the Designer/Builder shall track its time and material costs that it may use as the basis for dispute or a claim pursuant to the "Disputes" provisions herein.
- 15.12. **Payment of Change Orders.** Once approved, the Change Order will be paid either by an increase in the PPA rate or by separate payment(s) by the District, at the District's discretion.
- 16. ALLOWANCES.** For any allowances identified herein, Designer/Builder shall be permitted to charge its time, materials, and other items in the identical structure as a Change Order. Designer/Builder shall invoice only for components of the Work encompassed by the allowance description. Any unused allowance or unused portion thereof shall be deducted from the Contract Price. However, if Designer/Builder's costs exceed the allowance, the District shall reimburse Designer/Builder for such excess if approved in advance in a Change Order.
- 17. TRENCH SHORING:** If this Contract is in excess of Twenty Five Thousand Dollars (\$25,000) and is for the excavation of any trench deeper than five (5) feet, Designer/Builder must submit and obtain District acceptance and approval, in advance of excavation, of 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. If the plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

- 18. EXCAVATIONS OVER FOUR FEET:** If this Contract includes excavations over four (4) feet, Designer/Builder shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any: (1) Material that the Designer/Builder believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (2) Subsurface or latent physical conditions at the site differing from those indicated; or (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract. The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Designer/Builder's cost of, and/or the time required for, performance of any part of the Work shall issue a change order under the procedures described in the Contract. In the event that a dispute arises between the District and the Designer/Builder whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Designer/Builder's cost of, or time required for, performance of any part of the work, the Designer/Builder shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all Work to be performed under the contract. The Designer/Builder shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the Parties.
- 19. LEAD-BASED PAINT:** Pursuant to the Lead-Safe Schools Protection Act (Education Code Section 32240 et seq.) and other applicable law, no lead-based paint, lead plumbing and solders, or other potential sources of lead contamination shall be utilized on this Project, and only trained and state-certified contractors, inspectors and workers shall undertake any action to abate existing risk factors for lead. Designer/Builder must execute the Lead-Based Paint Certification, if applicable.
- 20. WORKERS:** Designer/Builder shall at all times enforce strict discipline and good order among its employees and the employees of its subcontractors and shall not employ or work any unfit person or anyone not skilled in work assigned to him or her. Any person in the employ of the Designer/Builder or a subcontractor whom the District may deem incompetent or unfit shall be dismissed from the Site and shall not again be employed at Site without written consent from the District.
- 21. CORRECTION OF ERRORS:** Designer/Builder shall perform, at its own cost and expense and without reimbursement from the District, any work necessary to correct errors or omissions which are caused by the Designer/Builder's failure to comply with the Contract requirements and the standard of care required herein.
- 22. SUBSTITUTIONS:** No substitutions of material from those specified in the approved final design shall be made without the prior written approval of the District, which the District shall complete as diligently as possible and which the District shall not unreasonably withhold. Notwithstanding the above, all requests for substitution shall be deemed granted if not objected to within fourteen (14) calendar days.
- 23. DESIGNER/BUILDER SUPERVISION:** Designer/Builder shall provide competent supervision of personnel employed on the job Site, use of equipment, and quality of workmanship.
- 24. CLEAN UP:** Debris shall be removed from the Premises by the Designer/Builder. The Site shall be in order at all times when work is not actually being performed and shall be maintained in a reasonably clean condition.
- 25. ACCESS TO WORK:** District shall provide to Designer/Builder uninterrupted access to the Premises and to a reasonably sufficient staging area, as further detailed in **Exhibit I**. District representatives shall at all times have access to the Work wherever it is in preparation or in progress. Designer/Builder shall provide safe and proper facilities for such access. Without diminishing the District's obligation to provide access as required herein, the Parties acknowledge that Designer/Builder intends to install the Generating Facilities at the Sites in accordance with the Project Schedule and within the parameters as further detailed in **Exhibit I** and that the Contract Price and Contract Time are based on those parameters.
- 26. PROTECTION OF WORK AND PROPERTY:** The Designer/Builder shall erect and properly maintain at all times, as required by conditions and progress of the Work, all necessary safeguards, signs, barriers, lights, and

security persons for protection of workers and the public, and shall post danger signs warning against hazards created by the Work. In an emergency affecting life and safety of life or of Work or of adjoining property, Designer/Builder, without special instruction or authorization from District, is permitted to act at his discretion to prevent such threatened loss or injury.

27. OTHER CONTRACTS/CONTRACTORS: District reserves the right to let other contracts, and/or to perform work with its own forces, in connection with other work at the School Sites. Designer/Builder shall afford other contractors' reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly coordinate and connect Designer/Builder's Work with the work of other contractors. In addition to Designer/Builder's obligation to protect its own Work, Designer/Builder shall protect the work of any other contractor that Designer/Builder encounters while working on the Project. Nothing herein contained shall be interpreted as granting to Designer/Builder exclusive occupancy of the Site, the Premises, or of the Project. Designer/Builder shall not cause any unnecessary hindrance or delay to the use and/or school operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or school operation is likely to cause interference with performance of Designer/Builder's Contract, Designer/Builder shall coordinate with those contractor(s), person(s), and/or entity(s) and shall submit to the District a PCO based on such coordination if that coordination is different than as indicated in **Exhibit I**.

28. ASSIGNMENT OF CONTRACT: The Designer/Builder shall not assign or transfer in any way any or all of its rights, burdens, duties, or obligations under this Contract without the prior written consent of the District. This provision shall not limit the Designer/Builder's right to subcontract portions of its Work to other entities and assign this Contract and all related contracts without the consent of the District (i) to a direct affiliate of Designer/Builder; (ii) to an entity that is controlled by, controls, or is under common control with Designer/Builder; or (iii) pursuant to a merger, consolidation, transfer of substantially all its assets, or by operation of law. This Contract will be binding on, enforceable by, and inure to the benefit of, the Parties and their respective successors and permitted assigns. Any assignment made in contravention of this clause shall be void and unenforceable. The Parties acknowledge that Designer/Builder may obtain construction and long-term financing or other credit support from lenders or third parties (including tax equity or similar investors) ("**Financing Parties**") in connection with the installation, construction, ownership, operation and maintenance of the System. Both Parties agree in good faith to consider and to negotiate changes or additions to this Contract that may be reasonably requested by the Financing Parties; provided, that such changes do not alter the fundamental economic terms of this Contract, the District's rights and obligations, including buyout and termination, or other provisions, the materiality of which will be subject to the District's reasonable determination. The Parties also agree that Designer/Builder may assign this Contract to the Financing Parties as collateral, and in connection with any such assignment, District agrees to execute a consent to assignment in customary form and reasonably acceptable to the Financing Parties consistent with this provision.

29. COMPLETION:

29.1. **Walk-Through as Prerequisite to Determination of Completion.** When the Designer/Builder believes that the Work is complete except for minor corrective items, it shall so notify the District. Promptly thereafter, the District shall schedule a final walk-through of the Project by the Designer/Builder, the Inspector and the District to determine whether and to what extent the Work is complete. Any erroneous claims of completion by the Designer/Builder resulting in a premature walk-through shall be at the Designer/Builder's sole cost and expense, and the District shall be entitled to reduce its payments to the Designer/Builder under the Contract by an amount equal to any costs incurred by the District due to the erroneous claims by the Designer/Builder that the Project is complete. Minor corrective (or "punch-list") items shall be identified in the final walk-through of the Project. Notwithstanding the provisions listed prior, the District shall accept as complete the different scope of work as each is completed, at different dates, as opposed to waiting for the entire Work to be completed prior to issuance of its Acceptance of Work.

29.2. **District's Acceptance of Work.** The District, in its sole discretion, may either (a) accept the Work as complete notwithstanding the need to complete minor corrective items (as distinguished from incomplete items), if the Work has otherwise been completed to the satisfaction of the District and

the Inspector, or (b) refrain from accepting the Work as complete until the entire Work and all portions thereof, including all punch-list items, have been completed to the satisfaction of the District and the Inspector. The Work shall only be accepted as complete by an action of the District's School Board ("Completion").

29.3. **Notice of Completion.** Once the District has accepted the Work as indicated herein, the District shall thereafter cause a Notice of Completion to be recorded in the County Recorder's Office.

29.4. **Designer/Builder's Failure to Correct Punch-List Items.** If the Designer/Builder fails to complete the minor corrective items prior to the expiration of the thirty-five (35) day period immediately following recording of the Notice of Completion, the District shall withhold from the final payment owing to the Designer/Builder under the Contract an amount equal to 150% the estimated cost, as determined by the District, of each item until such time as the item is completed.

29.5. **Time Is of the Essence:** Time is of the essence in the performance of and compliance with each of the provisions and conditions of this Contract.

30. BENEFICIAL USE: District reserves the right to receive beneficial use of the Work before formal Contract completion and upon receipt of Permission to Operate Letter and/or Permission to Interconnect from the Utility. Beneficial use shall not constitute final acceptance or approval of any part of the Work covered by this Contract, nor shall beneficial use extend the date specified for Completion of the Work. The Parties may mutually agree that the date that the Generating Facilities begin producing power can be deemed the date of system start up for sake of the Performance Guarantee.

31. FORCE MAJEURE CLAUSE:

31.1. The term "Force Majeure" shall mean those events caused beyond the control of the affected Party and which by the exercise of due diligence such Party could not reasonably avoid and which it has been unable to overcome, including acts of God and public enemy; fire; epidemics, landslides, volcanic activity, terrorism, strike; loss or shortage of transportation facilities; lock-out; commandeering of materials, product, plant, or facilities by the government; relocation or construction of transmission facilities or the shutdown of such facilities for the purpose of necessary repairs; work by local utility directly impacting the Project; flood; earthquake; tornado; severe storm; civil disobedience; sabotage; restraint by court order or public authority (whether valid or invalid); which is beyond the control of the affected Party and which by the exercise of due diligence such Party could not reasonably have been expected to avoid and which it has been unable to overcome.

31.2. Neither party shall be considered to be in default in the performance of any material obligation hereunder during the time and to the extent that it is prevented from obtaining delivery or performing by a Force Majeure event. Neither Party shall be relieved of its obligation to perform if such failure is due to causes arising out of its own negligence or due to removable or remediable causes which it fails to remove or remedy with the exercise of diligent efforts within a reasonable time period. Either Party rendered unable to fulfill any of its obligations under this Contract by reason of an event of Force Majeure shall give prompt written notice of such fact to the other Party. Notwithstanding a Force Majeure event, the party claiming such an event must provide satisfactory evidence that the event caused the delay or lack of performance and was not due to the fault or neglect of the party claiming a Force Majeure event.

31.3. Designer/Builder is aware that governmental agencies and utilities, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies ("Review Agencies") may have to approve Designer/Builder -prepared drawings or approve a proposed installation. Designer/Builder has included in the Project Schedule, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies. Designer/Builder is entitled to additional time in the Project Schedule for review of Designer/Builder's drawings or other approvals from the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies, if all of the following conditions have been satisfied:

31.3.1. The time for this review is in excess of the time expressly allocated for this review in the

Project Schedule;

31.3.2. Designer/Builder has diligently pursued approval from the Review Agencies;

31.3.3. Designer/Builder's drawings and proposed installation are consistent with IR 16-8 as of the date of this Contract; and

31.3.4. Designer/Builder's drawings and proposed installation are consistent with Designer/Builder's pre-check(ed) ("PC") design as of the date of this Contract, where applicable, except as modified at the District's request.

32. INDEMNIFICATION / HOLD HARMLESS CLAUSE: To the furthest extent permitted by California law, Designer/Builder shall defend, indemnify, and hold harmless the District, its trustees, members, agents, representatives, officers, consultants, employees, and volunteers (the "indemnified parties") from any and all demands, losses, liabilities, claims, suits, and actions (the "claims") of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising from personal or bodily injuries, death, property damage, or otherwise arising out of, connected with, or resulting from the performance of this Contract to the extent the claims are caused by the negligence, recklessness, or willful misconduct of Designer/Builder. The District shall have the right to accept or reject any legal representation that Designer/Builder proposes to defend the District. However, such acceptance shall not be unreasonably withheld. This indemnification, defense, and hold harmless obligation includes any failure or alleged failure by Designer/Builder to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract in strict accordance with their terms, and without limitation, any stop notice actions or liens, including liens by the California Department of Labor Standards Enforcement.

33. PERMITS, APPROVALS, AND LICENSES:

33.1. The Designer/Builder and all of its employees, agents, and subcontractors shall secure and maintain in force, at Designer/Builder's sole cost and expense, all licenses and permits as are required by law, in connection with the furnishing of materials, supplies, or Services herein listed with the exception of any mitigation measures required to obtain or maintain CEQA compliance.

33.2. Designer/Builder is responsible for obtaining on behalf of the District and at Designer/Builder's expense, all permits and approvals (including DSA approval), required for the building, installation, and start-up of the Work hereunder which are required to complete the Project.

33.3. District will cooperate fully with and assist Designer/Builder's obtaining all permits and approvals required under this Contract.

34. INDEPENDENT CONTRACTOR STATUS: While engaged in carrying out the Services of this Contract, the Designer/Builder is an independent contractor, and not an officer, employee, agent, partner, or joint venture of the District. Designer/Builder shall be solely responsible for its own Worker's Compensation insurance, taxes, and other similar charges or obligations. Designer/Builder shall be liable for its own actions, including its negligence or gross negligence, and shall be liable for the acts, omissions, or errors of its agents or employees.

35. PAYMENT BOND AND PERFORMANCE BOND: The Designer/Builder shall not commence the Work until it has provided to the District, in a form acceptable to the District, a Payment (Labor and Material) Bond and a Performance Bond, each in an amount equivalent to one hundred percent (100%) of the Contract Price issued by a surety admitted to issue bonds in the State of California and otherwise acceptable to the District. All performance bond liability will cease one (1) year from the completion date of the work of this Contract. The balance of any warranty or guarantee beyond one year required by District shall continue to be guaranteed solely by Designer/Builder. The payment bond liability will cease at the termination of any time required by law. Notwithstanding anything to the contrary in the Contract, the Payment (Labor and Material) Bond and the Performance Bond are not applicable to the Performance Guarantee.

36. DESIGNER/BUILDER'S INSURANCE: Designer/Builder has in force, and during the term of this Contract shall maintain in force with the minimum indicated limits, the following insurance. All policies shall contain waivers of subrogation against the District. All of Designer/Builder's insurance shall be with admitted insurance companies with an A.M. Best rating of no less than A: VII.

- 36.1. **Commercial General Liability Insurance.** Coverage to be written on an occurrence form. Coverage to be at least as broad as ISO form CG 002 (07/98), without endorsements that limit the policy terms with respect to: (1) the definition of an Insured Contract, (2) provisions for severability of interest, (3) explosion, collapse, underground hazard:
- \$2,000,000 per occurrence for Bodily Injury and Property Damage
 - \$4,000,000 General Aggregate - other than Products/Completed Operations
 - \$4,000,000 Products/Completed Operations Aggregate
 - \$1,000,000 Personal & Advertising Injury
 - \$500,000 Fire Damage
- 36.2. **Automobile Liability.** Coverage to be written on an occurrence form. Coverage for any auto, including all owned, hired and non-owned vehicles: combined single limit of \$1,000,000;
- 36.3. **Excess Liability Insurance.** Coverage to be written on an occurrence form. Coverage terms and limits to apply excess of the per occurrence and/or aggregate limits provided for Commercial General Liability, Auto Liability and Professional Liability. Coverage terms and limits to also apply in excess of those required for Employers Liability:
- \$10,000,000 each occurrence
 - \$10,000,000 aggregate
- 36.4. **Professional Liability insurance.** Coverage to be written on an occurrence-made form:
- \$1,000,000 per occurrence
 - \$2,000,000 aggregate
- 36.5. **Workers Compensation:** Statutory limits; and
- 36.6. **Employers' Liability:** \$1,000,000.
- Bodily Injury by accident \$1,000,000 each accident
 - Bodily Injury by disease \$1,000,000 each employee
 - Bodily Injury by disease \$1,000,000 policy limit

Commercial General Liability, Automobile Liability, Workers Compensation, and Employer's Liability limits may be reached through a combination of primary and umbrella/excess policies. The Designer/Builder shall provide to the District certificate(s) of insurance and endorsements satisfactory to the District. The policy(ies) shall not be amended or modified and the coverage amounts shall not be reduced without thirty (30) days written notice to the District prior to cancellation. Except for worker's compensation insurance and professional liability insurance, the District, shall be named as an additional insured on all policies. The Designer/Builder's policy(ies) shall be primary; any insurance carried by the District shall only be secondary and supplemental. The Designer/Builder shall not allow any subcontractor, employee, or agent to commence work on this Contract or any subcontract until the insurance required of the Designer/Builder of the subcontractor, or agent has been obtained.

- 36.7. **Builder's Risk Insurance: Builder's Risk "All Risk" Insurance.** Designer/Builder shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction), or similar first party property coverage acceptable to the District, issued on a replacement cost value basis. The cost shall be consistent with the total replacement cost of all insurable Work included within the Contract Documents. Coverage is to insure against all risks of accidental physical loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable

costs for the design and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

- 37. WARRANTY/QUALITY:** Unless a longer warranty is called for elsewhere in the Contract, the Designer/Builder, manufacturer, or their assigned agents shall guarantee the workmanship, product or service performed against defective workmanship, defects or failures of materials for a minimum period of one (1) year from date when District achieves Beneficial Use.
- 38. CONFIDENTIALITY:** To the extent permitted by applicable law, the Parties shall maintain the confidentiality of all information, documents, programs, procedures, and all other items that the Parties encounter during the Project and/or pursuant to the Contract. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes all student, parent, and disciplinary information.
- 39. CONFLICT OF INTEREST:** Designer/Builder understands that its professional responsibility is solely to the District. Designer/Builder warrants that it and its employees and/or subcontractors presently have no interest and will not acquire any direct or indirect interest that would conflict with its performance under this Contract, including, without limitation, any direct and/or indirect interest with: (an) entity(ies) performing construction in the same discipline and in competition with any contractor on a District project; (b) entity(ies) connected or related to a trade union or joint labor management committee; (c) the District.
- 40. COMPLIANCE WITH LAWS:** Designer/Builder shall give all notices and comply with all laws, ordinance, rules and regulations bearing on conduct of the Work as indicated or specified, including all "Interpretation(s) of Regulations" issued by DSA on or before the date of this Contract. If Designer/Builder observes that any of the Work required by this Contract is at variance with any such laws, ordinance, rules or regulations, Designer/Builder shall notify the District, in writing, and, at the sole option of the District, any necessary changes shall be made and this Contract shall be appropriately amended in writing, or this Contract shall be terminated effective upon Designer/Builder's receipt of a written termination notice from the District. If Designer/Builder performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Designer/Builder shall bear all costs arising therefrom.
- 41. DISTRICT'S RIGHT TO AUDIT:** District retains the right to review and audit, and the reasonable right of access to Designer/Builder's and any sub-consultant's premises to review and audit the Designer/Builder's compliance with the provisions of this Contract ("District's Right"). The District's Right includes the right to inspect, photocopy, and to retain copies, outside of the Designer/Builder's premises, of any and all Project-related records and other information with appropriate safeguards, if such retention is deemed necessary by the District in its sole discretion. The District shall keep this information confidential, as allowed by applicable law.
- 41.1. The District's Right includes the right to examine any and all books, records, documents and any other evidence of procedures and practices that the District determines are necessary to discover and verify that the Designer/Builder is in compliance with all requirements of this Contract.
- 41.2. If there is a claim for additional compensation or for extra Services, the District's Right includes the right to examine books, records, documents, and any and all other evidence and accounting procedures and practices that the District determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or anticipated to be incurred.
- 41.3. The Designer/Builder shall maintain complete and accurate records in accordance with generally accepted accounting practices in the industry. The Designer/Builder shall make available to the District for review and audit, all Project-related accounting records and documents, and any other financial data. Upon District's request, the Designer/Builder shall submit exact duplicates of originals of all requested records to the District.
- 41.4. The Designer/Builder shall include audit provisions in any and all of its subcontracts, and shall ensure that these sections are binding upon all sub-consultants.
- 41.5. The Designer/Builder shall retain all Project-related records and other information with appropriate

safeguards during the Term of this Contract and for a minimum of five (5) years thereafter.

41.6. Designer/Builder shall comply with these provisions within fifteen (15) days of the District's written request to review and audit any or all of Designer/Builder's Project-related records and information.

42. DISPUTES/CLAIMS: Public Contract Code § 9204. Claims between the District and the Designer/Builder shall be resolved in accordance with the procedures established in Public Contract Code § 9204.

42.1. **Claim.** The term "Claim" means a written demand by the Designer/Builder sent by registered mail or certified mail with return receipt requested for:

42.1.1. An extension of the Contract Time, including relief from damages or penalties assessed by the District for delay;

42.1.2. Payment of money or damages arising from work done by, or on behalf of, the Designer/Builder pursuant to the Contract and payment that is not otherwise expressly provided for in the Contract Documents or to which the Designer/Builder is not otherwise entitled; or

42.1.3. Payment of an amount that is disputed by the District.

42.2. **Submission of Claim.** A Claim arises upon the District's rejection of a request by the Designer/Builder for a Change Order. The Designer/Builder shall submit the Claim by registered mail or certified mail with return receipt requested to the District's Director of construction and Modernization, with a copy to the Project Manager/Construction Manager. The Designer/Builder shall submit its Claim in writing, together with all Supporting Documentation no later than the earlier of either: (1) thirty (30) days after the date the Claim arises; or (2) sixty (60) days after the date of Completion. It is the intent of the District to evaluate and resolve Claims with the Designer/Builder as close to the events giving rise to such Claims as possible and to avoid stale or late Claims, including late notice and documenting of Claims, and to timely mitigate the issue, event, condition, circumstance and/or cause of the Claim and any adverse impacts or damages related thereto.

42.3. **Contents of Claim.** A Claim must include all Supporting Documentation and a statement identifying it as a Claim signed by an authorized agent or officer of the Designer/Builder under penalty of perjury and including the following language immediately above or before the Designer/Builder's signature: "I declare under penalty of perjury under the laws of the State of California that the information provided and statements made in this Claim are true and correct, substantiated and of merit." The Designer/Builder recognizes and acknowledges that this requirement is not a mere formality but is intended to ensure that the Designer/Builder only submits Claims that it believes are true and correct, substantiated and have merit.

42.4. **Subcontractor Claims.** Pursuant to Public Contract Code § 9204(d)(5), a Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Designer/Builder submit to the District 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 submitted to the District shall furnish reasonable documentation to support the claim. Regardless of whether or not the Designer/Builder decides to submit the Subcontractor's claim to the District, Designer/Builder shall provide a copy of the Subcontractor's written request, including all supporting documentation, to the Project Manager/Construction Manager within ten (10) days of Designer/Builder's receipt of the request. In the event the Designer/Builder agrees to submit a Subcontractor's claim to the District, the Designer/Builder shall submit such claim as a request for a Change Order, unless such claim was previously submitted to the District as a request for a Change Order. Within forty-five (45) days of receipt of the Subcontractor's written request, the Designer/Builder shall notify the Subcontractor in writing as to whether the Designer/Builder submitted the claim to the District and, if the Designer/Builder did not submit the claim, the

Designer/Builder shall provide the Subcontractor with a written statement of the reasons for not having done so and shall concurrently provide a copy of such written statement to the Project Manager/Construction Manager. In the event the Designer/Builder includes supporting documentation with such written statement, the Designer/Builder shall concurrently provide a copy of such supporting documentation to the Project Manager/Construction Manager. If the Designer/Builder submits a Claim on behalf of a Subcontractor, the Claim shall include a statement in writing and signed by an authorized agent or officer of the Designer/Builder under penalty of perjury that includes the following language immediately above or before the Designer/Builder's signature: "I declare under penalty of perjury under the laws of the State of California that [insert name of Designer/Builder] has thoroughly evaluated the claim of [insert name of Subcontractor] and determined that the information provided and statements made in the claim are true and correct, substantiated and of merit."

- 42.5. **District Review of Claim.** Upon receipt of a Claim, the District shall review the Claim and, within a period not to exceed forty-five (45) days, shall provide Designer/Builder a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and the Designer/Builder may, by mutual written agreement, extend the forty-five (45) day time period. The District shall process and make payment of any undisputed portion of a Claim within sixty (60) days after the District issues its written statement. Failure by the District to provide a written statement in response to a Claim from the Designer/Builder within the forty-five (45) day time period, or within an agreed upon extended time period, shall result in the Claim being deemed rejected in its entirety. A Claim that is rejected by reason of the District's failure to respond, or failure to timely respond, to the Claim shall not constitute an adverse finding regarding the merits of the Claim or the claimant's responsibility or qualifications.
- 42.6. **Meet and Confer Meeting.** If the Designer/Builder disputes the District's written response, or if the District fails to respond within the time frame prescribed above, the Designer/Builder, within fifteen (15) days of the District's written response or, if the District fails to respond, within fifteen (15) days after the District's response was due, may demand, in a writing sent to the District's Superintendent by registered mail or certified mail, return receipt requested, with a copy to the District's Director of Construction and Modernization, and Project Manager/Construction Manager, an informal conference to meet and confer for settlement of the issues in dispute. The District shall schedule a meet and confer conference within thirty (30) days of its receipt of the Designer/Builder's written demand.
- 42.7. **Mediation.** Within ten (10) business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the District shall provide the Designer/Builder a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) days after the District issues its written statement. Any disputed portion of the Claim, as identified by the Designer/Builder in writing, shall be submitted to nonbinding mediation. The expenses and fees of the mediator and the administrative fees shall be divided among the parties equally. Each party shall pay its own legal fees, witness fees, and other expenses. The District and the Designer/Builder shall mutually agree to a mediator within ten (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. The foregoing notwithstanding, pursuant to Public Contract Code § 9204(f), the parties may mutually agree in writing to waive mediation.
- 42.8. Pending resolution of the dispute, Designer/Builder agrees it will neither rescind the Contract nor stop the progress of the Work but will allow determination by the court of the State of California, in

the county in which the District's administration office is located, having competent jurisdiction of the dispute.

42.9. Nothing in this Article shall prevent the Parties from resolving any disputes or claims pursuant to Public Contract Code section 20104, et seq., if applicable.

42.10. Nothing in this Contract, waives, modifies or tolls the Designer/Builder's obligation to present a timely claim under Government Code § 910, et seq. Therefore, in addition to complying with the contractual Claims procedures, the Designer/Builder is required to present claims to the District pursuant to Government Code § 910, et seq.

43. LABOR, WAGE & HOUR, APPRENTICE AND RELATED PROVISIONS

43.1. Designer/Builder & Subcontractor Registration

43.1.1. Designer/Builder shall comply with the registration and compliance monitoring provisions of Labor Code section 1771.4, including furnishing its CPRs to the Labor Commissioner of California and complying with any applicable enforcement by the Department of Industrial Relations. Labor Code section 1771.1(a) states the following:

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

43.1.2. Designer/Builder acknowledges that, for purposes of Labor Code section 1725.5, all or some of the Work is a public work to which Labor Code section 1771 applies. Designer/Builder shall comply with Labor Code section 1725.5, including without limitation the registration requirements. Additionally, all Contractor's Subcontractors shall comply with Labor Code section 1725.5 to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of the Contract. Designer/Builder represents that all of its Subcontractors are registered pursuant to Labor Code section 1725.5.

43.1.3. The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Designer/Builder shall post job site notices, as prescribed by regulation. Designer/Builder shall comply with all requirements of Labor Code section 1771.4, except the requirements that are exempted by the Labor Commissioner for the Project.

43.2. Wage Rates, Travel and Subsistence

43.2.1. Pursuant to the provisions of article 2 (commencing at section 1770), chapter 1, part 7, division 2, of the Labor Code of California, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute this Contract are on file at the District's principal office and copies will be made available to any interested party on request. Designer/Builder shall obtain and post a copy of these wage rates at the job site.

43.2.2. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District, but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

- 43.2.3. Designer/Builder shall pay and shall cause to be paid each worker engaged in Work on the Project not less than the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations (“DIR”) (“Director”), regardless of any contractual relationship which may be alleged to exist between Designer/Builder or any Subcontractor and such workers.
- 43.2.4. If during the period this bid is required to remain open, the Director determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, such change shall not alter the wage rates in the Notice to Bidders or the Contract subsequently awarded.
- 43.2.5. Pursuant to Labor Code section 1775, Designer/Builder shall, as a penalty to District, forfeit the statutory amount, (currently not to exceed two hundred dollars (\$200) for each calendar day, or portion thereof), for each worker paid less than the prevailing rates, as determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Designer/Builder or by any Subcontractor under it.
- 43.2.5.1. The amount of the penalty shall not be less than forty dollars (\$40) for each calendar day, or portion thereof, unless the failure of Designer/Builder was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of Designer/Builder.
- 43.2.5.2. The amount of the penalty shall not be less than eighty dollars (\$80) for each calendar day or portion thereof, if Designer/Builder has been assessed penalties within the previous three (3) years for failing to meet prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.
- 43.2.5.3. The amount of the penalty may not be less than one hundred twenty dollars (\$120) for each calendar day, or portion thereof, if the Labor Commissioner determines the Designer/Builder willfully violated Labor Code section 1775.
- 43.2.5.4. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by Designer/Builder.
- 43.2.6. Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and such minimum wage rate shall be retroactive to time of initial employment of such person in such classification.
- 43.2.7. Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by section 3093, and similar purposes.
- 43.2.8. Designer/Builder shall post at appropriate conspicuous points on the Site of Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Designer/Builder shall post a sign-in log for all workers and visitors to the Site, a list of all subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

43.3. **Hours of Work**

- 43.3.1. As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day’s work. The time of service of any worker employed at any time by Designer/Builder or by any Subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract shall be limited and restricted by Designer/Builder to eight (8) hours per

day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Designer/Builder in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

- 43.3.2. Designer/Builder shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Designer/Builder in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.
- 43.3.3. Pursuant to Labor Code section 1813, Designer/Builder shall as a penalty to the District forfeit the statutory amount (believed by the District to be currently twenty five dollars (\$25)) for each worker employed in the execution of this Contract by Designer/Builder or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code.
- 43.3.4. Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

43.4. **Payroll Records**

- 43.4.1. If requested by the District, Designer/Builder shall provide to the District and shall cause each Subcontractor performing any portion of the Work to provide the District an accurate and certified payroll record (“CPR(s)”), showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Designer/Builder and/or each Subcontractor in connection with the Work.

43.4.1.1. In addition to any other requirements pursuant to Labor Code sections 1770, et seq., the CPRs enumerated hereunder shall be certified.

- 43.4.2. All CPRs shall be available for inspection at all reasonable hours at the principal office of Designer/Builder on the following basis:

43.4.2.1. A certified copy of an employee’s CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

43.4.2.2. CPRs shall be made available for inspection or furnished upon request to a representative of District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the Department of Industrial Relations.

43.4.2.3. CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records reimburse the costs of preparation by Designer/Builder, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Designer/Builder.

- 43.4.3. The form of certification for the CPRs shall be as follows:

I, _____ (Name-Print), the undersigned, am the _____
_____ (Position in business) with the authority to act for and on
behalf of _____ (Name of business and/or
Designer/Builder), certify under penalty of perjury that the records or copies thereof

submitted and consisting of _____ (Description, number of pages) are the originals or true, full, and correct copies of the originals which depict the payroll record(s) of actual disbursements by way of cash, check, or whatever form to the individual or individual named, and (b) we have complied with the requirements of sections 1771, 1811, and 1815 of the Labor Code for any work performed by our employees on the Project.

Date: _____ Signature: _____

(Section 16401 of Title 8 of the California Code of Regulations)

- 43.4.4. Designer/Builder and all Subcontractors shall file a certified copy of the CPRs with the entity that requested the records within ten (10) days after receipt of a written request.
- 43.4.5. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, or Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Designer/Builder awarded Contract or performing Contract shall not be marked or obliterated.
- 43.4.6. Designer/Builder shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days, provide a notice of change of location and address.
- 43.4.7. In the event of noncompliance with the requirements of this section, Designer/Builder shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Designer/Builder must comply with this section. Should noncompliance still be evident after the ten (10) day period, Designer/Builder shall, as a penalty to District, forfeit one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of Division of Apprenticeship Standards or Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- 43.4.8. It shall be the responsibility of Designer/Builder to ensure compliance with the provisions of Labor Code section 1776.

43.5. **Apprentices**

- 43.5.1. Designer/Builder acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of Designer/Builder to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.
- 43.5.2. Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.
- 43.5.3. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which she/he is registered.
- 43.5.4. Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under chapter 4 (commencing at section 3070), division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.
- 43.5.5. Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Designer/Builder and any Subcontractors employing workers in any apprenticeable

craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Designer/Builder or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

- 43.5.6. Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Designer/Builder and any Subcontractor may be required to make contributions to the apprenticeship program.
- 43.5.7. If Designer/Builder or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:
 - 43.5.7.1. Be denied the right to bid on any subsequent project for one (1) year from the date of such determination;
 - 43.5.7.2. Forfeit as a penalty to District the full amount as stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.
- 43.5.8. Designer/Builder and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.
- 43.5.9. Designer/Builder shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and title 8, California Code of Regulations, section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California 94102.
- 43.5.10. Designer/Builder shall ensure compliance with all certification requirements for all workers on the Project including, without limitation, the requirements for electrician certification in Labor Code sections 108, et seq.

43.6. **Non-Discrimination**

- 43.6.1. It is the policy of the District that in connection with all work performed under contracts there be no discrimination against any employee engaged in the work because of race, national origin, ancestry, religion, age, physical or mental disability, sex, or sexual orientation of such person, and therefore the Designer/Builder agrees to comply with applicable Federal and California laws including, but not limited to the California Fair Employment Practice Act beginning with Government Code Section 12900 and Labor Code Section 1735. In addition, the Designer/Builder agrees to require like compliance by all its subcontractor(s).
- 43.6.2. Special requirements for Federally Assisted Construction Contracts: During the performance of this Contract, Designer/Builder agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

- 43.7. **Labor First Aid.** Designer/Builder shall maintain emergency first aid treatment for its workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.) the California Occupational Safety and Health Act of 1973, and all related regulations, including without limitation section 330 et seq. of Title 8 of the California Code of Regulations.

44. ANTI-TRUST CLAIM: Designer/Builder and its subcontractor(s) agree to assign to the District all rights, title, and interest in and to all causes of action they 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 Contract or a subcontract. This assignment shall be made and become effective at the time the District tenders final payment to the Designer/Builder, without further acknowledgment by the Parties.

- 45. GOVERNING LAW:** This Contract shall be governed by and construed in accordance with the laws of the State of California with venue of any action in a County in which the District administration office is located.
- 46. PROVISIONS REQUIRED BY LAW DEEMED INSERTED:** Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and this Contract shall be read and enforced as though it were included therein.
- 47. BINDING CONTRACT:** This Contract shall be binding upon the Parties and upon their successors and assigns, and shall inure to the benefit of said parties and their successors and assigns.
- 48. DISTRICT WAIVER:** District's waiver of any term, condition, covenant or waiver of a breach of any term, condition or covenant shall not constitute the waiver of any other term, condition or covenant or the waiver of a breach of any other term, condition or covenant.
- 49. INVALID TERM:** If any provision of this Contract is declared or determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity or enforceability of the remaining parts, terms and provisions shall not be affected thereby, and said illegal, unenforceable or invalid part, term or provision will be deemed not to be a part of this Contract.
- 50. ENTIRE CONTRACT:** This Contract sets forth the entire Contract between the Parties and fully supersedes any and all prior agreements, understanding, written or oral, between the Parties pertaining to the subject matter thereof. This Contract may be modified only by a writing upon mutual consent.
- 51. OWNERSHIP OF CERTAIN PROPRIETARY PROPERTY RIGHTS:** District shall not, by virtue of this Contract, acquire any interest in any formulas, patterns, devices, secret inventions or processes, copyrights, patents, other intellectual or proprietary rights, or similar items of property which are or may be used in connection with the equipment. Designer/Builder shall grant to District a perpetual, irrevocable royalty-free license for any and all software or other intellectual property rights necessary for District to continue to operate, maintain, and repair the equipment in a manner that will yield maximum energy production and/or energy consumption reductions.
- 52. OWNERSHIP OF ANY EXISTING EQUIPMENT:** Ownership of any equipment and materials presently existing at the Facilities at the time of execution of this Contract shall remain the property of the District even if it is replaced or its operation made unnecessary by work performed by Designer/Builder pursuant to this Contract. If applicable, Designer/Builder shall advise District in writing of all equipment and materials that will be replaced at the Facilities and District shall, within five (5) business days of Designer/Builder' notice, designate in writing to Designer/Builder which replaced equipment and materials that should not be disposed of off-site by Designer/Builder (the "**Retained Items**"). It is understood and agreed to by both Parties that District shall be responsible for and designate the location and storage for the Retained Items. Designer/Builder shall be responsible for the disposal of replaced equipment and materials, except for the Retained Items. Designer/Builder shall use commercially reasonable efforts to remove the Retained Items in such a manner as to avoid damage thereto, or if it is unreasonable to avoid damage altogether, to minimize the damage done.
- 53. UTILITY WORK:** District expressly understands and agrees that the definition "Force Majeure" above also includes any Interconnection Facilities work that may need to be performed by the local Utility ("**Utility**") in order for Designer/Builder to fully implement the Project. "Interconnection Facilities" shall mean any distribution or transmission lines and other facilities that may be required to connect equipment supplied under this Contract to an electrical distribution/transmission system owned and maintained by the Utility. Any Interconnection Facilities work that may be required will be performed by the Utility under a separate contract between District and the Utility. Designer/Builder shall prepare all Interconnection Facilities documentation, and collect all Interconnection Facilities information in a time frame to ensure maximum benefit to the District and to comply with all requirements. Designer Builder shall also cooperate and assist the District in facilitating the Interconnection Facilities work.
- 54. ENERGY CREDITS:** District shall own all right, title, and interest associated with or resulting from the development, construction, installation and ownership of the any facilities installed on the Project ("**Generating Facilities**"). This ownership includes the production, sale, purchase or use of the energy output including, without limitation:

- 54.1. All Environmental Incentives associated in any way with the Generating Facilities. "Environmental Incentives" means all rights, credits (including tax credits), rebates, benefits, reductions, offsets and allowances and entitlements of any kind, howsoever entitled or named (including carbon credits and allowances), whether arising under federal, state or local law, international treaty, trade association membership or the like arising from the Generating Facilities or the energy produced or otherwise from the development, construction, installation or ownership of the Generating Facilities or the production, sale, purchase, consumption or use of the energy produced from the Generating Facilities. Without limiting the forgoing, "Environmental Incentives" includes green tags, renewable energy credits, tradable renewable certificates, portfolio energy credits, the right to apply for (and entitlement to receive) incentives under the California Solar Initiative or other incentive programs offered by the State of California and the right to claim federal income tax credits under Section 45 or 48 of the Code as such credits are available arising from the Environmental Attributes of the Generating Facilities or the energy produced from the Generating Facilities or the production, sale, purchase, consumption or use of the energy produced from the Generating Facilities.
- 54.2. All rights and interests in performance based incentive payments to be made under the California Solar Initiative.
- 54.3. All reporting rights and the exclusive rights to claim that the District is responsible for the delivery of the energy from the Generating Facilities.
- 54.4. The District is responsible for the reductions in emissions of pollution and greenhouse gases resulting from the generation of the energy and the delivery thereof to each Energy Delivery Point.
- 54.5. The District is entitled to all credits, certificates, registrations, etc., evidencing or representing any of the foregoing.
- 54.6. District shall be the owner of and shall be entitled to all: (i) carbon reduction tonnes as defined under the California Action Reserve or such similar definition as enacted by the State of California or the U.S. Federal Government; and (ii) "renewable energy credits," as such term is defined in Section 399.12(h)(2) of the California Public Utilities Code, associated with the Generating Facilities, and Designer/Builder shall take such steps as District shall reasonably request to confirm District's ownership of such renewable energy credits.
- 54.7. Design/Builder is not responsible for compliance, certification, reporting, or other requirements associated with the sale, ownership, rights, or certifications for these energy credits, but Design/Builder will provide advice and consultation to the District as requested.
- 54.8. Design/Builder will use its best efforts so that the data collection of the system will be sufficient to take advantage of the energy credit market.

55. REBATE PROGRAMS: On behalf of the District, Designer/Builder shall prepare and submit to the applicable agencies all applications and documentation necessary for all available energy production and/or energy efficiency rebate(s), incentive(s), and/or loan program(s) ("Incentive Funds"). This shall include actions necessary to ensure compliance with the Utility's net metering program and all interconnection agreements and related documents for the District's participation and utilization of the benefits of that program. While Designer/Builder has extensive experience in assisting with procuring Incentive Funds for school districts, Designer/Builder cannot guarantee that these Incentive Funds will be received by the District. Procurement, or lack thereof, of these Incentive Funds will not alter the Contract Amount of this Contract, or payment timeline associated with standard progress invoicing and payments.

56. RESPONSIBILITIES OF THE DISTRICT

- 56.1. The District shall examine the documents submitted by the Designer/Builder and shall render decisions so as to avoid unreasonable delay in the process of the Designer/Builder's Services.
- 56.2. The District shall verbally or in writing advise the Designer/Builder if the District becomes aware of any fault or defect in the Project, including any errors, omissions or inconsistencies in the Designer/Builder's documents. Failure to provide such notice shall not relieve Designer/Builder of its responsibility therefore, if any.

- 56.3. Unless the District and the Designer/Builder agree that a hazardous materials consultant shall be a consultant of the Designer/Builder, the District shall furnish the services of a hazardous material consultant or other consultants when such services are requested in writing by Designer/Builder and deemed necessary by the District or are requested by the District. These services shall include: asbestos and lead paint survey; abatement documentation; and specifications related to said matters which are to be incorporated into bid documents prepared by Designer/Builder. If the hazardous materials consultant is furnished by the District and not a consultant of the Designer/Builder, the specifications shall include a note to the effect that they are included in the Designer/Builder's bid documents for the District's convenience and have not been prepared or reviewed by the Designer/Builder. The note shall also direct questions about the specifications to its preparer.
- 56.4. District personnel and/or its designated representatives shall coordinate with Designer/Builder as may be requested and desirable for the coordination or management of work related to the Project.
- 56.5. The District shall provide to the Designer/Builder all relevant information it possesses regarding the Project that the Designer/Builder needs to perform its Services. The District shall provide this information and its decisions required under this Contract in a timely manner and to avoid unreasonable delay in the Project.
- 56.6. The District will pay for all fees associated with any rebate programs for programs the District wishes to participate in.

57. LIABILITY OF DISTRICT

- 57.1. Other than as provided in this Contract, District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, arising out of or in connection with this Contract for the Services performed in connection with this Contract.
- 57.2. District shall not be responsible for any damage to persons or property as a result of the Designer/Builder's use, misuse or failure of any equipment used by Designer/Builder, or by its employees, even though such equipment be furnished or loaned to Designer/Builder by District.

- 58. PERFORMANCE GUARANTEE.** Designer/Builder hereby guarantees to District guaranteed energy output from each System as indicated in the attached **Exhibit G** (Performance Guarantee Parameters and Energy Output Data) ("Performance Guarantee"). The Performance Guarantee is only excused by the terms of **Exhibit G** and pursuant to its obligations under the Operations & Maintenance Contract, attached hereto as **Exhibit B**.

FORM OF AGREEMENT

Exhibit A

SCOPE OF WORK

Article 1. **ASSESSMENT.** Designer/Builder shall prepare an analysis of the site and suggest the best option, in its professional opinion, for photovoltaic (PV) panel design and installation at the Sites.

Article 2. **DESIGN SERVICES**

- 2.1. During the Design and Construction Phases of the Project, Designer/Builder will meet with District to review equipment, scope of work, and installation plans that relate to the design and construction of the Project.
- 2.2. During the course of the Work, and at least weekly, Designer/Builder will provide reports to the District of the general status and progress of the Work.
- 2.3. Although the Parties acknowledge that the Designer/Builder's Services are not completely severable between design, procurement, installation, construction, commissioning, and training, the following scopes of services will be generally referred to as the Services that the Designer/Builder shall perform during the design phase of the Work for the scopes of work for which Designer/Builder is designing the Project, which are the following portions of the Project:

Design, Installation, and Construction of a _____ kWdc (first year energy production of _____ kilowatt hours) Photovoltaic Entire System at the Sites, as further described herein below, and similar in size, appearance, and structure as indicated in Exhibit F:

[PREPARE THE FOLLOWING INFORMATION FOR EACH SITE.]

_____ **School**

System Size (DC kW): _____ kWdc Site Total

System Size (AC kW): _____ kWcec-ac Site Total

System Location: [physical descriptions of locations on the property]

Modules: [manufacturer and model number] _____ (_____ modules) PV modules or better

Expected Energy: Year 1 Total = _____ kWh

25-Year Total = _____ kWh

Inverter: [manufacturer and model number] _____ [Number? String? Single?]

Structure: _____ fixed tilt dual-cantilever and single-cantilever carport DSA pre-checked structures or better. Expected characteristics: (i) _____ depth piers with _____ exposed concrete bollards above grade; (ii) _____ degree azimuth; (iii) up to _____ degree tilt; and (iv) _____ clearance.

Point of Interconnection: Main Electrical Meter # _____ ("Delivery Point")

[ARRAY LAYOUT]

2.4. **Scope, Responsibilities, and Services of Designer/Builder**

- 2.4.1. Designer/Builder shall provide Services that shall comply with professional architectural and engineering standards, recognized industry standards for professional skill and judgment, and applicable requirements of federal, state, and local law.
- 2.4.2. Designer/Builder acknowledges that all California school districts are now obligated to develop and implement storm water requirements.
- 2.4.3. Designer/Builder shall contract for or employ at Designer/Builder's expense, consultant(s) to the extent deemed necessary for completion of its Services on the Project including, but not limited to, architects, mechanical, electrical, structural, civil engineers, landscape architects, low voltage, data, and telephone consultants as necessary, licensed as required by the State of California. Nothing in the foregoing procedure shall create any contractual relationship between the District and any consultant employed by the Designer/Builder under terms of the Contract.
- 2.4.4. The District shall provide to Design/Builder information and documentation that the District currently has related to the School Sites including geotechnical reports, topographic surveys, and related items. If Designer/Builder determines that the information or documentation the District provides is insufficient for purposes of design or if the Designer/Builder believes it needs additional information, including a topographical survey; geotechnical report; structural, mechanical, and/or chemical tests; tests for air and/or water pollution; test borings; test pits; determinations of soil bearing values; determinations of the location of all subsurface utilities; percolation tests; ground corrosion tests; resistivity tests; tests for hazardous materials; and/or tests for anticipating subsoil conditions, the Designer/Builder shall procure those items, at its expense, that it determines are required to complete the Project.
- 2.4.5. Designer/Builder shall coordinate with District personnel and/or its designated representatives as may be requested and desirable, including with other professionals employed by the District for the design, coordination or management of other work on the School Sites.
- 2.4.6. Designer/Builder shall identify the regulatory agencies that have jurisdiction over essential building and design elements and coordinate with and implement the requirements of the regulatory agencies or their authorized agents, including, without limitation, California Department of Education (CDE), the Office of Public School Construction (OPSC), the Department of General Services (DGS), DSA Fire/Life Safety, DSA Access Compliance Section, DSA Structural Safety, State Fire Marshal, County and City Health Inspectors and any regulatory office or agency that has authority for review and supervision of school district construction projects.
- 2.4.6.1. Construction Documents must be reviewed and approved by the DSA. Designer/Builder shall be responsible for obtaining all DSA approvals and shall account for DSA requirements in their system designs, project pricing, and schedule. Designer/Builder represents to the District that it has a complete and accurate understanding of DSA requirements.
- 2.4.7. Designer/Builder shall be held solely responsible for obtaining approvals from the District, including revising designs as necessary until they are given approval by the District and all other required entities and organizations. System design shall comply with all applicable laws, statutes, ordinances, codes, rules, and regulations for construction projects of jurisdictions with authority over the District. Designer/Builder is responsible for providing designs approved by professionals of all necessary disciplines, each duly licensed in the State of California. Designer/Builder's designs shall

conform to the District's determination of aesthetics, and the designs must not conflict with any current District operations.

- 2.4.8. Designer/Builder shall provide Services required to obtain local agencies' approval for off-site work related to the Project including review by regulatory agencies having jurisdiction over the Project, if applicable.
- 2.4.9. Designer/Builder shall coordinate with the District's DSA Project Inspector(s).
- 2.4.10. Designer/Builder shall provide pictures downloaded to computer files, updated as requested by the District that the District may use on its website. Pictures shall be limited to Designer/Builder's Project scope.
- 2.4.11. As part of the basic Services pursuant to this Contract, Designer/Builder is NOT responsible for the following, however, it shall coordinate and integrate its work with any of the following information and/or services provided by District:
 - 2.4.11.1. Ground contamination or hazardous material analysis.
 - 2.4.11.2. Any asbestos and/or lead testing, design or abatement.
 - 2.4.11.3. Compliance with the California Environmental Quality Act ("CEQA"), except that Designer/Builder agrees to coordinate its work with that of any CEQA consultants retained by the District, to provide current elevations and schematic drawings for use in CEQA compliance documents at no additional cost to the District. If the District and/or its CEQA consultant does not provide mitigation measures to the Designer/Builder when reasonably required for incorporation into the Project design, the Designer/Builder may invoice the District for the work required to incorporate those mitigation measures as a change order.
 - 2.4.11.4. Historical significance report.
 - 2.4.11.5. Re-zoning: it is assumed that the proposed locations are zoned for solar electric installations and no delays will occur due to zoning issues.
 - 2.4.11.6. Easement adjustments: it is assumed that no roads, bridges, utility power lines, local CC&R's, etc., will be of such a nature as to disrupt the solar installation and no delays will occur due to easement issues.

2.5. Designer/Builder Staff

- 2.5.1. The Designer/Builder has been selected to perform the Services herein because of the skills and expertise of key individuals.
- 2.5.2. The Designer/Builder shall not change any of the key personnel without prior written approval by District, unless said personnel cease to be employed by Designer/Builder. In either case, District shall be allowed to interview and approve replacement personnel. Such approval shall not be unreasonably withheld.
- 2.5.3. If any designated lead or key person fails to perform to the reasonable satisfaction of the District, then upon written notice the Designer/Builder shall have five (5) days to remove that person from the Project and replace that person with one reasonably acceptable to the District.
- 2.5.4. Designer/Builder shall comply with Education Code section 17302(a) and agrees that any plans and/or specifications included in the Services shall be prepared under the supervision of licensed personnel, and that licensed personnel shall be in "responsible charge" of persons who observe the construction.

2.6. Ownership of Data

- 2.6.1. Pursuant to Education Code section 17316, this Contract creates a non-exclusive and perpetual license for District to use, at its discretion, all plans, including, but not limited to, record drawings, specifications, and estimates that the Designer/Builder or its consultants, prepares or causes to be prepared pursuant to this Contract, limited to this Work.
- 2.6.2. The Designer/Builder retains all rights to all copyrights, designs and other intellectual property embodied in the plans, record drawings, specifications, estimates, and other documents that the Designer/Builder or its consultants prepares or causes to be prepared pursuant to this Contract.
- 2.6.3. The Designer/Builder shall perform the Services and prepare all documents under this Contract with the assistance of Computer Aided Design Drafting (CADD) (e.g., AutoCAD) Technology. The Designer/Builder shall deliver to the District, on request, by tape, "thumb" drive, compact disc and/or Box file hosting service (at the District's option), and compatible with AutoCAD 2006 and/or Adobe Portable Document Format (at the District's option).
- 2.6.4. In order to document exactly what CADD information was given to the District, Designer/Builder and District shall each sign a "hard" copy of reproducible documents that depict the information at the time Designer/Builder produces the CADD information. District agrees to release Designer/Builder from all liability, damages, and/or claims that arise due to any changes made to this information by anyone other than the Designer/Builder or Consultant(s) subsequent to it being given to the District.
- 2.6.5. Following the termination of this Contract, for any reason whatsoever, the Designer/Builder shall promptly deliver to the District upon written request the following items (hereinafter "Instruments of Service") in electronic format (Microsoft Word), unless otherwise indicated, assuming the District has made all payments to Designer/Builder as required by the termination provisions in this Contract.
 - 2.6.5.1. One set of the Contract, including the bidding requirements, specifications, and all existing cost estimates for the Project, in hard copy, reproducible format.
 - 2.6.5.2. One set of fixed image CADD files in DXF format of the drawings that are part of the Contract.
 - 2.6.5.3. One set of non-fixed image CADD drawing files in DXF and/or DWG format of the site plan, floor plans (architectural, plumbing, structural mechanical and electrical), roof plan, sections and exterior elevations of the Project.
 - 2.6.5.4. All finished or unfinished documents, studies, reports, calculations, drawings, maps, models, photographs, technology data and reports prepared by the Designer/Builder under this Contract.
- 2.6.6. In the event the District changes or uses any fully or partially completed documents without the Designer/Builder's knowledge and participation, the District agrees to release Designer/Builder of responsibility for such changes, and shall indemnify, defend and hold the Designer/Builder harmless from and against any and all claims, liabilities, suits, demands, losses, costs and expenses, including, but not limited to, reasonable attorneys' fees, on account of any damages or losses to property or persons, including injuries or death, or economic losses, arising out of that change or use except to the extent the Designer/Builder is found to be liable in a forum of competent jurisdiction. In the event District uses any fully or partially completed documents without the Designer/Builder's full involvement, the District shall remove all title blocks and other information that might identify the Designer/Builder and the Designer/Builder's consultants.

2.7. **Certificate of Designer/Builder**

- 2.7.1. Designer/Builder certifies that the Designer/Builder is properly certified and licensed under the laws and regulations of the State of California to provide the professional Services that it has herein agreed to perform.

Article 3. DESIGN SERVICES BY PHASE

3.1. **Early Design Phase(s).** Designer/Builder agrees to provide the services described below:

- 3.2. Designer/Builder shall be responsible for the professional quality and technical accuracy of all studies, reports, projections, master plans, designs, drawings, specifications and other services furnished by Designer/Builder under the Contract as well as coordination with all Master plans, studies, reports and other information provided by District. Designer/Builder shall, without additional compensation, correct or revise any errors or omissions in its studies, reports, projections, master plans, design, drawings, specifications and other services.

3.3. **Schematic Design / Design Development Phase.** The Designer/Builder shall prepare for the District's review a design report, containing the following items if applicable to the Project scope, as follows:

- 3.3.1. Prepare and review with District staff a scope of work list and work plan identifying specific tasks including, but not limited to: concepts and schematic design preparation and estimating that are part of the work of the Project. Also identified will be specific task responsibilities of the Designer/Builder, required completion times necessary for the review and approval by the District and by pertinent regulatory agencies and additional definition of deliverables.

- 3.3.2. Solar structure layout at the School Sites.

3.3.3. **Structural**

- 3.3.3.1. Structural drawing with all major members located and sized.

- 3.3.3.2. Layout structural and identify structural systems

- 3.3.3.3. Identify foundation requirement (including fill requirement, piles) with associated soil pressure, water table and seismic center.

3.3.4. **Landscape and Hardscape**

- 3.3.4.1. Landscape and hardscape plans, as necessary to return Sites to presentable condition, for each Site for areas under and around each new structure, fencing, and parking lot areas.

- 3.3.4.2. Trees to be removed within the construction area will be identified. Designer/Builder will assist the District in identifying other potential trees it may be required to remove to prevent shading that will impact power generation of the System(s) in areas outside the construction area

3.3.5. **Presentation**

- 3.3.5.1. Designer/Builder shall present and review with the District the detailed design information and deliverables for this phase.

3.4. **Construction Documents Phase.** Upon District's acceptance of Designer/Builder's work in the previous Phase and assuming District has not delayed or terminated the Contract, the Designer/Builder shall prepare from the accepted deliverables from the previous design phase a set of 90% complete construction documents for submission to DSA and for review by the District, and which will consist of the following for each proposed System within Designer/Builder's scope of work:

3.4.1. **Architectural**

- 3.4.1.1. Completed Site plan.
- 3.4.1.2. Architectural details completed.
- 3.4.1.3. Site utility plans completed.
- 3.4.1.4. Fixed equipment details and identification completed.

3.4.2. **Structural**

- 3.4.2.1. Structural calculations completed.

3.4.3. **Mechanical**

- 3.4.3.1. Complete energy production calculations and report.

3.4.4. **Landscape and Hardscape**

- 3.4.4.1. Unless agreed to in writing in advance by the District, Designer/Builder shall complete all landscape and hardscape plans for each Site for areas under and around each new structure, fencing, and parking lot areas as necessary to return Sites to practical, presentable and functional condition(s), consistent with the surrounding area. This includes, unless inappropriate, paving where surrounding areas are paved and planting where surrounding areas have planting, but excludes replanting of trees and plants removed to allow construction of the System.
- 3.4.4.2. Designer/Builder shall identify trees and plants within the construction area and shall notify the District in advance of the trees and plants that Designer/Builder intends to be removed so the District can determine whether it wishes Designer/Builder to replace the tree(s) or plant(s) at a one to one ratio (1:1) at Designer/Builder's cost not to exceed the Tree and Plant Replacement Allowance Amount described below or whether to remove the tree(s) or plant(s) and replace them with tree bark at Designer/Builder's cost. The Tree and Plant Replacement Allowance Amount is: _____ Dollars (\$##.###)

3.4.5. **Deliverables and Numbers of Copies**

- 3.4.5.1. Designer/Builder shall provide to the District a hard copy of the following items produced in this phase, together with one copy of each item in electronic format:
 - 3.4.5.1.1. Two copies of reproducible copies of working drawings;
 - 3.4.5.1.2. Two copies of engineering calculations;
 - 3.4.5.1.3. Two copies of statement of requirements for testing and inspection of service for compliance with applicable codes;
 - 3.4.5.1.4. Two copies of DSA file including all correspondence, meeting, back check comments, checklists to date.

- 3.4.6. **Record Drawings.** During construction, Designer/Builder shall incorporate all information on all As-Built, sketches, details, and clarifications, and prepare one set of final Record Drawings for the District. The Record Drawings shall incorporate onto one set of electronic drawings, all changes from all As-Built, sketches, details, and clarifications. The Designer/Builder shall deliver the Record Drawings to the District at completion of the construction and it shall be a condition precedent to the District's approval of the Designer/Builder's final payment.

- 3.4.7. **O&M Manuals / Warranties.** Designer/Builder shall review equipment, operation and maintenance manuals, and a complete set of warranty documents for all equipment and installed systems, to ensure that they meet the requirements of the plans and specifications. The Designer/Builder shall deliver the O&M Manuals / Warranties to the District at completion of the construction and it shall be a condition precedent to the District's approval of the Designer/Builder's final payment.

Article 4. DESCRIPTION OF WORK AND SERVICES BY SCOPE

- 4.1. **General.** Designer/Builder shall design, install, and construct the Work at the School Sites. The Entire System shall be installed to conform to National Electric Code, Division of the State Architect ("DSA") requirements, the Utility's interconnection agreements, and City and County access requirements. Designer/Builder's Work shall include:
- 4.1.1. Meetings and discussions as needed with DSA, Fire Department, Utility and others as needed to achieve project approval.
 - 4.1.2. Criteria for beneficial use as defined in the Contract,
 - 4.1.3. Installation of elevated solar structures allowing parking below and traffic circulation between canopies, that shall provide a minimum of ten (10) feet clearance beneath each canopy. Structures shall be limited to the areas generally indicated on the site plans provided in **Exhibit F**, unless changes to locations are mutually agreed upon by the District and Designer/Builder.
 - 4.1.4. Installation of electrical equipment pad and utility tie-ins shall be limited to the areas generally indicated on the site plans provided in **Exhibit F**, unless changes to locations are mutually agreed upon by the District and Designer/Builder. To the extent practical, the selection of the final location will consider methods to block the view of the electrical equipment from offsite public areas.
 - 4.1.5. Removal of light standards in areas with solar structure(s) and replacement with lighting attached to the underside of the solar structure(s). Existing lighting circuits can be re-used for PV Array support structures lighting system and those existing circuits have ample current carrying capacity to provide required lighting at PV Array support structures. New lighting circuit installation is excluded from this proposal as well as any required timing circuit reconfiguration. Lighting design and/or installation beyond the PV Array support structures is not included in this agreement.
- 4.2. **Utility Requirements.**
- 4.2.1. Designer/Builder shall ensure that all Work shall comply with all requirements of the Utility.
 - 4.2.2. Designer/Builder shall manage existing and new interconnection applications for Sites with utility. Legacy TOU rate status shall be maintained for previously filed applications at the following sites:
_____.
 - 4.2.3. Even though there are no California Solar Initiative rebates available to the District, the Utility may institute a rebate or incentive program in the future. Therefore, Designer/Builder shall ensure that all of the Work, as required, complies with all requirements, including the metering and monitoring requirements, outlined in the California Solar Initiative Program Handbook.
- 4.3. **DSA Approvals & Permits**
- 4.3.1. Designer/Builder, its designers and contractors shall provide documentation required for all approvals by DSA.

- 4.3.2. Designer/Builder shall notify the District and the District's Project Inspector(s) of required inspections and shall provide reasonable access and accommodations for inspections.

4.4. Monitoring

- 4.4.1. Install a data acquisition system, which provides access by unlimited individuals to data via the internet, which shall include options for display of daily energy generation by Site, and system-check features. This will include a system that will monitor and log the Entire System performance on a daily basis by School Site. This information can be reviewed on a daily basis by District personnel. This information can be used to establish an operational baseline operation. Following is a detailed description of the Monitoring requirements:

- 4.4.1.1. Electricity generation monitoring reports,

- 4.4.1.2. Communication with a third party monitoring company to be provided via internet connection.

4.5. Protection of Existing Structures and Utilities

- 4.5.1. The School Sites have above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Designer/Builder shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage occur to these existing installations, the costs of repair shall be at the Designer/Builder's expense and made to the District's satisfaction.

- 4.5.2. Designer/Builder shall be alert to the possibility of the existence of additional structures and utilities. If Designer/Builder encounters additional structures and utilities, Designer/Builder will immediately report to the District for disposition of same as indicated in the Contract Documents.

- 4.5.3. Landscape and Hardscape

- 4.5.3.1. Designer/Builder shall perform all landscape and hardscape work at each site for areas under and around each new structure, fencing, and parking lot areas as necessary to return sites to practical, presentable and functional condition(s), consistent with the surrounding area. This includes, unless inappropriate, paving where surrounding areas are paved and planting where surrounding areas have planting. Planting includes re-seeding grass or re-planting trees.

- 4.5.4. Designer/Builder shall ensure that none of the underground power lines it installs will create the potential for electrolytic corrosion of any other underground utilities near such power lines. Where the potential for electrolytic corrosion exists, Designer/Builder shall design and install either (1) a cathodic protection system to protect such utilities or (2) another protection system approved by the District.

4.6. Site Access

- 4.6.1. No new access roads are planned; however, should the need arise, District and Designer/Builder shall agree upon reasonable accommodations and compensation. Designer/Builder shall return existing surfaces to a preconstruction condition.

- 4.6.2. District and Designer/Builder shall provide 24/7 unrestricted access to existing electric utility meter and the utility lockable disconnect location

- 4.6.3. District to permit using on site water and power as available for construction at no

charge to Designer/Builder, with the exception of fire hydrants

- 4.6.4. District to permit use of a temporary diesel generator onsite during construction activities, subject to local ordinances.

4.7. **Specific Requirements:**

- 4.7.1. **General Considerations.** All documentation and components furnished by Designer/Builder shall be developed, designed, and/or fabricated using high quality design, materials, and workmanship meeting the requirements of the District and all applicable industry codes and standards. Designer/Builder shall perform the Work in accordance with all standards within these Specific Requirements. The installations shall comply with at least, but not limited to, the latest approved versions of the International Building Code (IBC), National Electrical Code (NEC), the Utility's Interconnection Requirements, and all other federal, state, and local jurisdictions having authority.

- 4.7.2. **Electrical Design Standards.** All Work shall comply with at least, but not limited to, the following electrical industry standards, wherever applicable:

- 4.7.2.1. Electronic Industries Association (EIA) Standard 569
- 4.7.2.2. Illumination Engineering Society of North America (IESNA) Lighting Standards
- 4.7.2.3. Institute of Electrical and Electronics Engineers (IEEE) Standards
- 4.7.2.4. National Electrical Manufacturers Association (NEMA)
- 4.7.2.5. National Electric Code (NEC)
- 4.7.2.6. California Electrical Code (CEC)
- 4.7.2.7. Insulated Power Cable Engineers Association (IPCEA)
- 4.7.2.8. Certified Ballast Manufacturers Association (CBMA)
- 4.7.2.9. Underwriters Laboratories, Inc. (UL)
- 4.7.2.10. National Fire Protection Association (NFPA)
- 4.7.2.11. Pacific Gas and Electric Utility Requirements
- 4.7.2.12. American National Standards Institute (ANSI)
- 4.7.2.13. Occupational Health and Safety Administration (OSHA)
- 4.7.2.14. Americans with Disabilities Act (ADA)
- 4.7.2.15. American Society for Testing and Materials (ASTM)
- 4.7.2.16. National Electrical Contractors Association (NECA)
- 4.7.2.17. National Electrical Testing Association (NETA)
- 4.7.2.18. International Building Code (IBC)
- 4.7.2.19. All other authorities having jurisdiction

- 4.7.3. **Modules.** The District has facilities located in and around residential areas and glare from panels that reflects into nearby residences must be minimized. During the Schematic Design / Design Development Phase, the Designer/Builder shall submit to the District an analysis of the glare from installed modules, showing the extent that glare is likely to reach adjacent residential structures at all times throughout the year. In addition to other applicable standards, the PV modules provided by Designer/Builder shall comply with at least, but not limited to, the following:

- 4.7.3.1. IEEE 1262 "Recommended Practice for Qualifications of Photovoltaic Modules".
- 4.7.3.2. Modules shall be new, undamaged, fully warranted without defect.
- 4.7.3.3. Modules shall comply with the State of California SB1 Guidelines for Eligibility,

listed at: http://www.gosolarcalifornia.org/equipment/pv_modules.php

- 4.7.3.4. Modules shall have minimum maintenance requirements and high reliability, have a minimum 25-year design life, and be designed for normal, unattended operation.
- 4.7.3.5. Acceptable mounting methods for unframed modules provided by the manufacturer. Bolted and similar connections shall be non-corrosive and include locking devices designed to prevent twisting over the 25-year design life of the PV system.
- 4.7.3.6. The environmental impact of any hazardous material in the PV modules must be disclosed to the District, including any special maintenance requirements and proper disposal/recycling of the modules at the end of their useful life.
- 4.7.3.7. Minimum Performance Parameters as per IBC 1509.7.4, IRC M2302.3, UL 1703.
- 4.7.3.8. Photovoltaic Panel Types:
 - 4.7.3.8.1. Monocrystalline: Listed to UL 1703.
 - 4.7.3.8.2. Polycrystalline: Listed to UL 1703.
 - 4.7.3.8.3. Thin-Film/Flexible: Listed to UL 1703.
 - 4.7.3.8.4. Building-Integrated & Solar Shingles: Listed to UL 1703.
- 4.7.3.9. Module and System Identification
 - 4.7.3.9.1. Listed to UL 969 for weather resistance.
 - 4.7.3.9.2. Listed to UL 1703 for marking contents and format.
 - 4.7.3.9.3. Main Service Disconnect: per NEC.
 - 4.7.3.9.4. Identification Content and Format: per NEC.
 - 4.7.3.9.5. Identification for DC Conduit, Raceways, Enclosures, Cable Assemblies, and Junction Boxes: IFC 605.
 - 4.7.3.9.6. Identification for Inverter: per NEC.
- 4.7.3.10. Bypass diodes shall be built into each PV module either between each cell or each string of cells.
- 4.7.3.11. Other Components: per UL 1703.
- 4.7.3.12. Hail Protection: Compliant with testing procedure per ASTM E-1038.
- 4.7.3.13. Lightning Protection: Shall ground according to manufacturer instructions per UL 1703.
- 4.7.3.14. Access, Pathways, and Smoke Ventilation: Per IFC 605.3, access and spacing requirements must be observed to: ensure access to the roof, provide pathways to specific areas of the roof, provide for smoke ventilation opportunities area, and, where applicable, provide emergency access egress from the roof.
- 4.7.3.15. Fire Classification:
 - 4.7.3.15.1. IBC 1505.8 for building-integrated photovoltaic and solar shingles.

4.7.3.15.2. IBC 1509.7.2: Although not technically enforceable, every effort shall be made to ensure the solar photovoltaic module is not combustible.

- 4.7.4. **Inverters.** In addition to other applicable standards, inverters provided by Designer/Builder must comply with at least, but not limited to the following:
- 4.7.4.1. Inverters shall be suitable for grid interconnection and shall be compliant with all Utility interconnection requirements.
 - 4.7.4.2. Inverters shall comply with the State of California SB1 Guidelines for Eligibility, listed at: <http://www.gosolarcalifornia.org/equipment/inverters.php>
 - 4.7.4.3. IEEE 929-2000 – “Recommended Practice for Utility Interface of Photovoltaic Systems”.
 - 4.7.4.4. Inverters must automatically reset and resume normal operation after a power limiting operation.
 - 4.7.4.5. The inverter shall be capable of continuous operation into a system with voltage variation of plus or minus 10% of nominal. The inverter shall operate in an ambient temperature range of -20°C to +50°C.
 - 4.7.4.6. Inverters shall include all necessary self-protective features and self-diagnostic features to protect the inverter from damage (in the event of component failure or from parameters beyond normal operating range due to internal or external causes). The self protective features shall not allow the inverters to be operated in a manner which may be unsafe or damaging.
 - 4.7.4.7. Inverters shall be true sine wave high frequency PWM.
 - 4.7.4.8. Inverters shall be sized to provide maximum power point tracking for voltage and current range expected from PV array for temperatures and solar insolation conditions expected for Project conditions.
 - 4.7.4.9. Inverters shall be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electrical production.
 - 4.7.4.10. Isolation transformers shall be provided.
 - 4.7.4.11. Inverters shall be UL 1741, IEEE 519 and IEEE 1547 compliant.
 - 4.7.4.12. Inverters shall be listed per FCC Part 15 Class A.1.
 - 4.7.4.13. Inverters shall have a THD < 5%.
 - 4.7.4.14. Enclosures shall be rated NEMA 3R within an appropriate shelter.
 - 4.7.4.15. Power factor shall be 0.99 or higher.
 - 4.7.4.16. Inverters shall have utility-interactive, or stand-alone, or combined capabilities.
 - 4.7.4.17. Inverters shall include maximum power point tracking (MPPT) features.
 - 4.7.4.18. Inverters shall include anti-islanding protection if paralleling arrangement is required.
 - 4.7.4.19. Inverter selection shall take into account anticipated noise levels produced and minimize interference with District activities.
- 4.7.5. **Mounting Systems.** The mounting systems shall be designed and installed with reliable components proven in similar projects, and the PV modules may be fixed or tracking.

The mounting systems shall be designed to resist dead load, live load, corrosion UV degradation, wind loads, and seismic loads appropriate to the geographic area over the expected 25-year lifetime. Designer/Builder shall submit an analysis of each structure impacted by the Project, and Designer/Builder shall submit all supporting evidence, calculations, and documentation. The analysis shall demonstrate that existing structures are not compromised or adversely impacted by the installation of PV systems, equipment, or other activity related to the Work. Mounting systems must also meet the following requirements at a minimum:

- 4.7.5.1. All structural components, including array structures, shall be designed in a manner commensurate with attaining a minimum 25-year design life. Design of structural components shall account for the prevention of corrosion at the connections between dissimilar metals.
- 4.7.5.2. Thermal loads caused by fluctuations of component and ambient temperatures shall be accounted for in the design and selection of mounting systems such that neither the mounting system nor the surface on which it is mounted shall degrade or be damaged over time.
- 4.7.5.3. Each PV module mounting system must be certified by the module manufacturer as (1) an acceptable mounting system that shall not void the module warranty, and as (2) a conforming mounting system per the module manufacturer's mounting parameters.
- 4.7.5.4. Final coating and paint colors shall be reviewed and approved by the District during Design Review.
- 4.7.5.5. Painting or other coatings must not interfere with the grounding and bonding of the array.

4.7.6. **Corrosion Control.**

- 4.7.6.1. Each PV system and associated components must be designed and selected to withstand the environmental conditions of the Site (e.g., temperatures, winds, rain, flooding, etc.) to which they will be exposed.
- 4.7.6.2. Particular attention shall be given to the prevention of corrosion at the connections between dissimilar metals.
- 4.7.6.3. A Corrosion control plan must be submitted by Designer/Builder during the Schematic Design / Design Development Phase for District approval which will include at a minimum the analysis of the corrosion risk and mitigation measures.

4.7.7. **Roofing Requirements.** The installation of PV modules, inverters and other equipment shall provide adequate room for access and maintenance of the existing building and existint fixtures. A minimum of three feet of clearance will be provided between PV equipment and existing mechanical equipment and other equipment mounted on the roof. A minimum of four feet of clearance shall be provided between PV equipment and the edge of the roof. Clearance guidelines of the DSA as well as the local fire marshal shall be followed. The installation of solar systems of roof tops will be reviewed by the DSA for code compliance by adherence to the State Fire Marshal Solar Photovoltaic Installation Guideline. The PV equipment shall not be installed in a way that obstructs air flow into or out of building systems or equipment. Proposed roof top mounted systems may be ballasted or penetrating systems and must meet or exceed the following requirements:

- 4.7.7.1. Systems shall not exceed the ability of the existing structure to support the

entire solar system and withstand increased wind uplift and seismic loads. The capability of the existing structure to support proposed solar systems shall be verified by Designer/Builder prior to design approval.

- 4.7.7.2. All racking systems shall allow for the District staff to perform roof inspection, cleaning, and maintenance operations with minimal obstructions from the racking; maintenance activities include, but are not limited to, leak identification, or repair once the solar system is installed.
- 4.7.7.3. Roof penetrations, if part of the mounting solution, shall be kept to a minimum.
- 4.7.7.4. Designer/Builder shall perform all work so that existing roof warranties shall not be voided, reduced, or otherwise negatively impacted.
- 4.7.7.5. No work shall compromise roof drainage, cause damming or standing water or cause excessive soil build-up.
- 4.7.7.6. All materials and/or sealants must be chemically compatible.
- 4.7.7.7. Thermal movement that causes scuffing to the roof must be mitigated as part of the mounting solution.
- 4.7.7.8. All roof penetrations shall be waterproofed.
- 4.7.7.9. The Designer/Builder shall not create a roof penetration until, as part of system design review and approval, Designer/Builder submits detail(s) for the sealing of that roof penetrations, and the detail(s) are approved in writing by the District and the manufacturer of the existing roofing system. The District will make available the roofing manufacturer for each building for consultation with Designer/Builder as part of the design process.
- 4.7.7.10. All roofing work shall be performed by a licensed roofing contractor who is certified by the roofing materials manufacturer for the specific materials or systems comprising each roof upon which a solar system will be installed. The roofing contractor shall also be safety prequalified by the District.
- 4.7.7.11. As part of the design submittals, Designer/Builder shall include signed certificates from the roofing manufacturer stating:
 - 4.7.7.11.1. The roofing contractor is certified installer of the complete roofing system.
 - 4.7.7.11.2. The manufacturer's Technical Representative is qualified and authorized to approve the complete roofing system.
 - 4.7.7.11.3. Project plans and specifications meet the requirements of the warranty of the complete roofing system for a minimum twenty-five (25) year period.
 - 4.7.7.11.4. Existing warranty incorporates the new roofing work and flashing work.
- 4.7.7.12. Any damage to roofing material during installation of PV systems must be remedied by the Designer/Builder.
- 4.7.7.13. The installation of PV modules, inverters and other equipment on building roofs will be designed to minimize visibility of the equipment from the ground.

4.7.8. **Shade Structure Requirements.** Designer/Builder is responsible for incorporating the following elements in the design and construction of the Project:

- 4.7.8.1. Minimum height: all shade structures shall be designed to have a minimum

clear height of ten(10) feet.

- 4.7.8.2. All shade structures shall be designed to have a bollard at each low corner point.
- 4.7.8.3. All shade structures shall be installed with fascia surrounding the exposed edge of the structure's purlins.
- 4.7.8.4. Shade structures located in parking lots shall have a protective concrete surround / base installed on support posts.
- 4.7.8.5. Shade structure columns, beams, and fascia shall be painted or finished to match Site colors or to a finish of the District's approval.
- 4.7.8.6. Shade structures and all attached equipment shall be designed and installed so as to minimize the ability to climb structures.
- 4.7.8.7. Shade structures shall be installed such that the finished height of the array is uniform and is subject to the District's approval at design submittal.
- 4.7.9. **Ancillary Equipment Enclosures.** Designer/Builder will be responsible for incorporating the following elements in the design and construction of the Project:
 - 4.7.9.1. All ancillary equipment be grouped to a single location per site and shall be surrounded by a fence to prevent students, vandals, and trespassers from gaining access. The fence shall be a six (6) foot high chain link fence with vinyl privacy slats. If the system is a ground mount design, ancillary equipment shall be located within the fenced array area.
 - 4.7.9.2. All ancillary equipment shall be located in a manner that minimizes its impact to normal District operations and minimizes resulting visual impacts.
- 4.7.10. **Infrastructure for Ground Mount Systems (Not Preferred).** The District does not prefer ground mounted systems. However, if the District approves a ground mounted system, the Designer/Builder will be responsible for incorporating the following elements in the design and construction of the Project:
 - 4.7.10.1. Ground mounted systems shall be surrounded by a fence to prevent students, vandals, and trespassers from gaining access the system. The fence shall be a eight (8) foot high chain link fence with vinyl privacy slats.
 - 4.7.10.2. At least two gates shall be installed to enable site access for trucks.
 - 4.7.10.3. A pathway a minimum of ten (10) feet wide passable by a maintenance truck shall be provided within the array fence to allow for access to all equipment enclosed within the fence area.
 - 4.7.10.4. Access to water (from the main campus) for maintenance (module cleaning) purposes, as determined adequate by Designer/Builder and approved by the District.
 - 4.7.10.5. Designer/Builder shall install pole-mounted light fixtures to illuminate the site perimeter at night, the associated cabling required for powering these fixtures, and photocell controls/switches. Exterior lights shall be installed around the perimeter of the PV array to provide a minimum of 0.5 fc throughout the array at ground level. Light poles shall be located in a manner such that they do not create shade on a PV system at any time during the system electrical generating hours.
 - 4.7.10.6. Access to low voltage (120V) AC power (from the main campus) to power maintenance equipment and miscellaneous equipment.

- 4.7.10.7. Installation and activation of sufficient security cameras on Site to monitor array area, connected to the Site's security system, in collaboration with the District.
- 4.7.10.8. Installation of an acceptable surface cover material under and around the modules and throughout the Site that provides appropriate weed control, erosion and dust management.
- 4.7.10.9. Creation of an access road to the any ground mount system for maintenance and fire access purposes. The access road shall be passable under all weather conditions.
- 4.7.10.10. Inclusion of safety equipment (electrical equipment, signage, etc).
- 4.7.11. Lightning and Surge Protection**
- 4.7.11.1. Designer/Builder shall utilize lightning arrestors to protect appropriate equipment from lightning strikes.
- 4.7.11.2. Designer/Builder shall utilize surge suppressors to protect the appropriate equipment from electrical surges.
- 4.7.12. Short Circuit Coordination Study**
- 4.7.12.1. The Designer/Builder shall conduct a short-circuit and coordination study (SCCS) that includes all of the overcurrent protective devices installed on the project (AC/DC fuses and AC/DC circuit breakers). This study will ensure that the devices installed as part of a PV system are coordinated with the rest of a site's distribution, preventing an unintentional outage due to an isolated PV system fault.
- 4.7.12.2. The study shall be submitted, with calculations, for District review as part of design review.
- 4.7.13. Wiring and Cabling Runs**
- 4.7.13.1. Designer/Builder shall layout and install all AC conductors in conduit.
- 4.7.13.2. Conduit buried underground shall be suitable for the application and compliant with all applicable codes. PVC shall be constructed of a virgin homopolymer PVC compound and be manufactured according to NEMA and UL specifications. All PVC conduit feeders shall contain a copper grounding conductor sized per NEC requirements and continuity shall be maintained throughout conduit runs and pullboxes. Pullboxes shall be traffic rated with lockable lids. Minimum conduit size shall be ¾". A tracing/caution tape must be installed in the trench over all buried conduit. All underground conduits placed in trenches, buried under roadways, or swales shall be encased with red dyed concrete slurry cap.
- 4.7.13.3. Conduit installed using horizontal directional boring (HDB), shall include tracer tape or traceable conduit. The minimum depth of the conduit shall be per NEC 2011 Article 300.5. The Designer/Builder is responsible for demonstrating that all conduits installed utilizing horizontal boring meets the minimum depth requirement and is solely responsible for any remediation costs and schedule impacts if the specification is not met. Designer/Builder must provide documentation of final depth and routes of all conduit installed in horizontal bores.
- 4.7.13.4. Conduit installed on building roofs shall not be installed near roof edges or parapets to reduce visibility. Any conduit penetrations through roof surfaces shall not be made within five (5) feet of the roof edge to reduce visibility. If

conduit is installed on the exterior face of any building, it shall be painted to match the existing building color. In all cases, the visible impact of conduit runs shall be minimized and the design and placement of conduit shall be reviewed and approved by the District as part of Design Review.

- 4.7.13.5. Electric metallic tubing (EMT) shall be used for wiring or cabling indoors, above grade locations, and where conduit needs to be protected from damage. EMT shall not be installed underground, outdoors, or embedded in concrete. EMT shall be cold-rolled zinc coated steel and be manufactured to UL and ANSI standards. Fittings shall be watertight and malleable gripping ring compression type. Pressure cast material for nuts of compression ring type fittings and set-screw type connections are not acceptable.
- 4.7.13.6. Galvanized Rigid Conduit (GRC) shall be used where exposed to weather or where subject to physical damage in exposed areas. GRC shall be continuous hot-dipped galvanized manufactured per UL and ANSI requirements. Rigid aluminum conduit is not acceptable. Conduit bodies for use with steel conduit, rigid or flexible, shall be manufactured per UL requirements and shall be cast metal with gasketed closures. Fittings for GRC conduit shall be malleable iron or forged steel with cadmium or zinc coating. Union couplings for joining rigid conduit at intermediate runs shall be of the same material as the conduit. Couplings shall be threaded concrete-tight to permit completing conduit runs when neither conduit can be turned and to permit breaking the conduit run at the union. Set screw connectors are not acceptable.
- 4.7.13.7. Minimum conduit size shall be $\frac{3}{4}$ ".
- 4.7.13.8. All conduits, boxes, enclosures, etc. shall be secured per NEC 690 requirements.
- 4.7.13.9. All conductors shall be insulated copper rated for 600V, maximum. DC conductors shall be PV Wire 600V or 1000V UL Listed Sunlight resistant wire.
- 4.7.13.10. All items shall be U.L. listed and shall bear the U.L. label.
- 4.7.13.11. All spare conduits shall be cleaned, mandrelled, and provided with a pullwire. Spare conduits shall be required for security cameras for ground mount systems.
- 4.7.13.12. All feeders and branch circuits shall be sized to minimize voltage drop and losses and shall be in compliance with NEC requirements.
- 4.7.13.13. Designer/Builder shall furnish, install, and connect combiners and recombiners as necessary to complete the System. Enclosures for combiners and recombiners shall be NEMA 4 or 4X rated, shall be listed UL 1741, and shall include internal overcurrent protection devices with dead front. Up to 48 volts DC: Shall use UL-listed DC breakers that meet NEC requirements for overcurrent protection. Up to 1000 volts DC, paralleling system: Shall use fuses instead of breakers. Ground and pole-mounted arrays shall have a separate combiner box mounted to the pole itself. Where applicable, combiner box shall be a disconnecting combiner box.
- 4.7.13.14. All systems, conduit, boxes, components, etc. shall be grounded and bonded per NEC requirements and in accordance with Section 1.3.6.14.
- 4.7.13.15. Designer/Builder will be responsible for locating, identifying and protecting existing underground utilities conduits, piping, substructures, etc. and ensuring that no damage is inflicted upon existing infrastructure.

4.7.13.16. Designer/Builder shall install the exposed string cable homeruns along the beams or structure where the combiner box is installed.

4.7.13.17. All exposed string wiring must be installed above the lower surface of the structural purlins and beams. Wire loops under framing members are not acceptable.

4.7.14. Grounding and Bonding

4.7.14.1. All applicable components of the solar energy electrical power generating system must be grounded per latest NEC requirements.

4.7.14.2. DC Ground-Fault Protector:

4.7.14.2.1. Shall be listed per UL 1703.

4.7.14.2.2. Shall comply with requirements of the NEC.

4.7.14.3. Module ground wiring splices shall be made with irreversible crimp connectors.

4.7.14.4. All exposed ground wiring must be routed above the lower surface of any structural framing.

4.7.14.5. For shade structure installations, grounding electrode conductors shall be bonded to structure columns either just below grade or below the top surface of concrete bollards.

4.7.15. Battery Charge Controller (if applicable)

4.7.15.1. Listed per UL 1741.

4.7.15.2. Charge controller or self-regulating system shall be required for a stand-alone system with battery storage. Charge controller's adjusting mechanism shall be accessible only to qualified persons.

4.7.15.3. Shall be capable of withstanding 25% over-amperage while charging for limited time per the NEC.

4.7.15.4. Charge controller shall include maximum power point tracking (MPPT) and temperature compensation.

4.7.16. Battery (if applicable)

4.7.16.1. All batteries for the System shall comply with NEC. Flooded lead-acid, captive electrolyte lead acid, nickel-cadmium, and lithium are acceptable. Consider climate when selecting battery type.

4.7.16.2. Installation and Maintenance: Follow practices per IEEE 937.

4.7.16.3. Test and Evaluation:

4.7.16.3.1. Stand-Alone System: Follow procedures per IEEE 1361.

4.7.16.3.2. Hybrid System: Follow procedures per IEEE 1661.

4.7.16.4. Optimize Performance and Life: Follow practices per IEEE 1561.

4.7.16.5. Safety and Ventilation:

4.7.16.5.1. Use protective enclosure and proper ventilation per the NEC.

4.7.16.5.2. Exposed battery terminals and cable connections shall be protected, and live parts of batteries shall be guarded. Batteries should be accessible only to a qualified person via locked room, battery box, or other container.

4.7.16.5.3. Spacing around battery enclosures and boxes and other equipment shall be at least 915 mm [36 inches]; batteries shall not be installed in living areas, or below enclosures, panelboards, or load centers.

4.7.16.5.4. Prohibited are conductive cases for flooded, lead-acid batteries operating above 48-volt nominal. Battery racks shall have no conductive parts within 155 mm [6 inches] of the tops of cases.

4.7.16.6. Interconnection:

4.7.16.6.1. Per NEC, battery cables shall be a standard building wire type conductor. Welding and automobile "battery" cables (listed and non-listed) are prohibited.

4.7.16.6.2. Flexible cables, listed for hard service use and moisture resistance, are permitted (not required) from battery terminals to nearby junction box and between battery cells. Flexible, highly-stranded building-wire type cables (USE/RHW and THW) are available. Battery terminals shall be compatible with flexible cables.

4.7.17. **Switch/Disconnecting Means**

4.7.17.1. Shall be UL-listed, in accordance with the NEC, as shown on the drawings, and as specified.

4.7.17.2. Utility External Disconnect Switch (UEDS): Refer to code, as several states do not require UEDS for small solar photovoltaic systems if the inverter provides the same function per NEC. Coordinate requirements with serving electric utility.

4.7.18. **System Security Requirements**

4.7.18.1. Designer/Builder shall utilize tamper-resistant PV module to rack fasteners for all PV module mounting.

4.7.18.2. Designer/Builder shall utilize tamper-resistant fasteners for all electrical fittings, pull boxes and other enclosures.

4.7.19. **Meters**

4.7.19.1. Designer/Builder shall supply and install a Utility approved Net Generation Output Meter (NGOM) for each PV system.

4.7.19.2. Generation Meters shall use Internet Protocol (IP) communication and shall not require a custom network for connection.

4.7.19.3. Generation Meters shall have the capability to store metered data (including instantaneous kW, kWh, voltage, current, and phase information) in fifteen (15) minute intervals and retain such information for at least seven (7) days.

4.7.20. **Shade Structure Lighting**

4.7.20.1. Installation of shade structure PV systems in all locations shall include and the installation of new security high efficiency lighting. Installation of shade structure PV systems shall include the removal of existing security light poles, foundations, and fixtures that are no longer effective.

4.7.20.2. Lighting shall be LED lighting or other similar energy efficient lighting system.

4.7.20.3. New parking lot fixtures shall be installed to provide parking lot illumination compliant with IESNA requirements or recommendations for illumination and

safety.

- 4.7.20.4. Minimum horizontal illuminance of one (1) foot-candle shall be maintained at ground level with a uniformity ratio (maximum to minimum) of 15:1.
- 4.7.20.5. The new lighting is required to illuminate the entire parking area and adjacent pedestrian walkways affected by the removal of existing lights, not just the area under the PV modules.
- 4.7.20.6. A photometric illumination plot must be submitted for each parking lot showing all existing lighting and proposed new SSS canopy lighting.
- 4.7.20.7. Submit California Title 24 Outdoor Lighting calculations with all lighting drawings and show evidence of compliance.
- 4.7.21. Photocell controls shall be used in conjunction with a lighting control system for all exterior lighting and energize lighting when ambient lighting levels fall below two (2) foot-candles measured horizontally at ground level. The lighting control system shall also be able to function based on time clock control adjustable by District staff. Lighting shall also be permitted to operate manually without regards to photocell or time clock input. Replacement parking lot lighting shall be served from an existing parking lot lighting circuit and any existing circuits and existing control function shall be maintained, or if replaced, done so at the approval of the District.
- 4.7.22. **Monitoring System, DAS, and Reporting.** Designer/Builder shall design, build, activate and ensure proper functioning of Data Acquisition Systems (DAS) that enable the District to track the performance of the PV Systems as well as environmental conditions through an online web-enabled graphical user interface and information displays. Designer/Builder shall provide equipment to connect the DAS via existing Wi-Fi network or cellular data network at all locations. The means of data connection will be determined during design. The District will pay for the cost of cellular data service if needed, but not for the modem or other equipment needed to connect to the cellular network.
 - 4.7.22.1. The DAS(s) shall provide access to at least the following data:
 - 4.7.22.1.1. Inverter and System Level Instantaneous AC system output (kW)
 - 4.7.22.1.2. Inverter and System Level PV System production (kWh) over pre-defined intervals that may be user configured
 - 4.7.22.1.3. Inverter and System Level AC and DC voltage
 - 4.7.22.1.4. Horizontal and in-plane irradiance (at least two (2) sensors for each, at different positions in the array)
 - 4.7.22.1.5. Ambient and back-of-cell temperature (at least two (2) sensors for each, at different positions in the array)
 - 4.7.22.1.6. Inverter status flags and general system status information
 - 4.7.22.1.7. System availability
 - 4.7.22.1.8. Site Load information. Available load data for the meter the system is connected to shall be collected by the solar monitoring solution as part of the DAS.
 - 4.7.22.2. Environmental data (temperatures, wind speed, and irradiance) shall be collected via an individual weather station installed for each system at the District.
 - 4.7.22.3. Data collected by the DAS shall be presented in an online web interface,

accessible from any computer through the Internet with appropriate security (e.g., password controlled access). The user interface shall allow visualization of the data at least in the following increments: 15 minutes, hour, day, week, month, and year. The interface shall access data recorded in a server that may be stored on-site or remotely with unfettered access by the District for the life of the Project, 25 years after the issuance of the Permission to Operate Letter from the Utility. The online interface shall enable users to export all available data in Excel or ASCII comma-separated format for further analysis and data shall be downloadable in at least 15 minute intervals for daily, weekly, monthly and annual data.

4.7.22.4. The Monitoring system shall enable for the diagnoses potential problems and perform remediating action. The monitoring system shall provide alerts when the system is not functioning within acceptable operating parameters. These parameters shall be defined during the design phase of the Project and specified in the DAS design document.

4.7.22.5. Additionally, Designer/Builder shall provide the following reports for the life of the Project:

4.7.22.5.1. Monthly Production report shall be available online to the District personnel.

4.7.22.5.2. Annual Performance report shall be sent electronically to the District personnel.

4.7.22.5.3. System performance data shall be made available electronically to the District in a format and at a frequency to be determined during the Design Review process.

4.7.22.5.4. Additional reports shall be made available to the District to assist the District in reconciling system output with utility bills and the production guarantee, as determined in the Design Review process.

4.7.22.6. A Monitoring Manual shall be provided to the District in printed or online form that describes how to use the monitoring system, including the export of data and the creation of custom reports.

4.7.23. Other Considerations

4.7.23.1. All Balance of System (wiring, components, conduits, and connections) must be suited for conditions for which they are to be installed.

4.7.23.2. Local DC and AC disconnects shall be located in accessible locations near inverters.

4.7.23.3. Outdoor enclosures shall be rated NEMA 3R, NEMA 4, or NEMA 4X.

4.7.24. **Federal Aviation Administration (FAA) Requirements.** Designer/Builder shall be responsible to submit the appropriate FAA Form 7460-1, along with any other required forms and documentation, for all proposed PV systems within the approach or takeoff paths or on the property of airports as defined by the Code of Federal Regulations Title 14 Part 77.9.

4.7.25. **Interconnection.** Designer/Builder is responsible for obtaining all necessary Utility interconnection approvals for each PV system being installed. Designer/Builder must comply with all interconnection requirements, such as California Public Utilities Commission (CPUC) rules for the Utility service territory. Designer/Builder is responsible

for the proper planning and scheduling of interconnection approvals and any potential interconnection study. Systems installed as part of this Project will take advantage of Net Energy Metering (NEM). Designer/Builder shall be responsible for ensuring the system design and interconnection qualifies for NEM.

4.7.26. **Production Modeling.** Production modeling of the PV systems shall be performed using PVSYST or equivalent modeling software using TMY3 weather data for the nearest local International Airport. The simulations shall accurately simulate energy production for proposed system layouts, sizes, and orientation. It is critical that PV production models are accurate with all methodology and assumptions described. The District will independently verify production models are accurate to the designed systems and utilize simulation results for economic evaluations. Designer/Builder shall be responsible for updating the production models each time changes are made to the proposed system designs that will impact production.

4.7.27. **Shading**

4.7.27.1. Designer/Builder shall adhere to the following requirements in order to avoid excessive shading on modules. For any object near an array that is higher than the lowest point of that array by height "H", Designer/Builder shall locate the array farther from the object than:

4.7.27.1.1. 3H to the North of the object

4.7.27.1.2. 3H to the East or West of the object

4.7.27.1.3. 3H to any non-cardinal direction of the object

4.7.27.2. Any Designer/Builder whose system design does not adhere to these rules shall perform a shading analysis justifying the basis for their design, including any proposed tree removal, and explaining why shading does not create an adverse performance and/or economic impact.

4.7.27.3. Any trees that are in the footprint of systems to be installed by the Designer/Builder shall be removed by the Designer/Builder at their expense, subject to the approval of the District. A tree shall be considered to be in the footprint of a system if its canopy would extend over any part of the system, including structural components or modules. The District will remove or prune, at its discretion, trees planted outside of the work area that shade PV systems (at present time or in the foreseeable future), provided the Designer/Builder identifies these trees during the design process. The Designer/Builder shall be responsible for any required tree remediation efforts resulting from tree removal, including compliance with all applicable tree removal ordinances, laws and regulations.

4.7.27.4. **Weather Station – Data Collection.** Installation of Data Acquisition System (DAS) that displays historical meteorological and production data over an Internet connection and consists of hardware located on-site, including a "weather station" at each Site and software housed on Designer/Builder's DAS provider's server. The DAS shall measure and log, at a minimum, the following parameters on a 15-minute average basis at the Sites:

4.7.27.4.1. Actual AC electricity production of the System at each School Site (in kWh),

4.7.27.4.2. Solar irradiance (in W/m^2 and/or $W/feet^2$), at the District's option

4.7.27.4.3. Temperature (in $^{\circ}C$ and/or Fahrenheit, at the District's

option), and

4.7.27.4.4. Wind speed (in meters or feet per second, at the District's option).

4.7.27.5. Pass through manufacturer warranties as indicated in **Exhibit H**.

- 4.8. **Maintenance, Operations, and Repair.** The Designer/Builder shall perform all work and services as indicated in the Operations & Maintenance Contract, attached hereto as **Exhibit B**.
- 4.9. **Training.** Designer/Builder shall provide twelve (12) hours of on-site training for District personnel in all aspects of operation, routine maintenance, and safety of the PV systems, DAS, and monitoring solution. At a minimum, training topics shall include the following:
- 4.9.1. PV system safety, including shut-down procedures
 - 4.9.2. PV module maintenance and troubleshooting
 - 4.9.3. Structural elements maintenance and repair guidelines
 - 4.9.4. Inverter overview and maintenance procedures
 - 4.9.5. Calibration and adjustment procedures for the inverters and tracking systems (if any)
 - 4.9.6. Solar panel replacement
 - 4.9.7. DAS and monitoring solution, including standard and custom reporting
 - 4.9.8. Designer/Builder shall submit a proposed Training Plan during the design process for approval. The on-site portion of the training program shall be scheduled to take place at the Sites at a time agreeable to both the District and Designer/Builder.
- 4.10. **Educational Programs.** Designer/Builder shall develop and deploy an educational program consisting of the following mandatory elements:
- 4.10.1. Sample lesson plans including teaching materials appropriate for grades 7-12
- Optional elements may also include:
- 4.10.2. Physical design elements
 - 4.10.3. Outdoor classroom space
 - 4.10.4. Promotion of solar career opportunities

Exhibit B

Operations & Maintenance Contract

This Operations and Maintenance Contract (“O&M Contract”) is made and entered into by and between the Piedmont Unified School District (“District” or “Customer”) and _____, Inc. (“Operator”) (collectively, “Parties”). The Customer and the Operator entered into a Solar Contract for Design and Construction (“Solar Contract”) pursuant to which Operator is obligated to provide operations and maintenance services for the system that was constructed pursuant to that Solar Contract (“System”).

NOW, THEREFORE, the Parties agree as follows:

1. **Services.** The Operator shall provide the services as described herein, as may be modified as permitted herein (“Services” or “Work”).

During the Term, and for the Annual Fees, Operator shall perform the following services on each System:

[SCOPE TO BE FULLY REVISED/NEGOTIATED TO CONFORM TO REQUIREMENTS AND AGREED UPON SERVICES.]

Description of Work	Frequency
Remote System Monitoring	24 hours / 7 days per week
On-Call System Service Technician	Per request
Electrical Inspection	One time per year
Module Washing	One Time per year

- A. System Monitoring and On-Call Service Technician
 - a. Provide remote monitoring of System operations via Internet connection. Track changes and respond to power outages within twenty-four (24) hours.
 - b. If necessary and reasonably appropriate as a solution to the alarm a Service Technician will be required to visit the site or determine an action plan to trouble shoot and resolve the issue within twenty-four (24) hours of alarm to identify cause.
- B. Electrical Inspection & Maintenance:
 - a. **Electrical Maintenance**
The technician will:
 - i. Perform a visual inspection and ensure proper operation of PV modules and array wiring, strain relief, mounting system, trackers, inverters, switchgear, transformers, combiner boxes, wireways and conduit, protection devices, data acquisition system, weather sensors and outdoor lighting.
 - ii. Perform vegetation management around array and equipment pad or make recommendations to host for vegetation removal.
 - iii. Inspect and ensure proper operation of pyranometers and reference cells. Calibrate equipment per manufacturer guidelines.
 - iv. Record operational data from inverters and meters.
 - b. **External and/or Internal DC Disconnects and Combiner Boxes.** During the inspection, the technician will:
 - i. Ensure that Imp testing is performed on all DC strings.
 - ii. Tighten loose electrical connections in combiner boxes, switchgear and inverters.
 - c. **Inverter and Transformer.** The technician will:
 - i. Clean out all electrical enclosures.
 - ii. Clean inverter air filters.
 - iv. Perform visual inspection of security and equipment fences.
 - v. Perform Preventive Maintenance on the inverter(s) as required to maintain inverter

manufacturer's warranty.

d. AC Disconnect

- i. The technician will check for proper operation.

e. Service Report

- i. Provide a report annually documenting all service and maintenance on the site.

f. Corrective Maintenance. The Operator shall perform the following:

- i. On-site troubleshooting & diagnostics of all system components
- ii. Inverter and Data Acquisition System resets:
 - Unlimited remote resets (if capability enabled and connection available)
 - Unlimited on-site resets for systems under Operator warranty
 - Up to two on-site resets per year for systems out of warranty
- iii. Processing of warranty claims on behalf of Customer and verification of replaced equipment
- iv. Management of repair and replacement for equipment out of warranty, where Operator is responsible to perform all labor related to procuring, installing, and maintaining those components or acceptable replacement components, at no additional cost to the District.
- v. Ongoing warranty support and representation of Customer's interest with System equipment manufacturers
- vi. Provide a report annually documenting all service and maintenance on the site.

C. Module Washing:

Operator shall wash all modules a minimum of one (1) time per year.

D. System Monitoring Equipment

On an annual basis the monitoring system will be tested to verify that it is operating as intended. The Operator will notify the District of alerts and Operator will acknowledge the alerts and respond with a reason for the alert or an action plan to continue to monitor for changes or trouble shoot the problem.

E. Excluded Services

- a. Any installation of additional monitoring equipment that may be required if site conditions change for reasons beyond Operator's control.
- b. Parts or equipment that were not installed by Operator or its Subcontractors.
- c. In the event that any manufacturer of the solar specific equipment including any modules, inverters, racking, combiner boxes or monitoring equipment relating to a material component of the Generating Facilities is not able or willing to honor its warranty to District and District does not remedy by replacement at its own expense and Operator uses its best efforts to assist the District in its attempts to oblige the manufacturer to comply with its warranty obligations, Operator shall not be responsible for the costs of any such manufacturer's components, but Operator will remain responsible to perform all labor related to procuring, installing and maintaining those components or acceptable replacement components, at no additional cost to the District.
- d. Repair of damage due to damage from third parties including damage associated with baseball field activities.

2. **Term.** Operator shall commence providing services under this O&M Contract on the Performance Guarantee Start Date and will diligently perform as required herein for up to five (5) successive terms of five (5) years from that date, with the District having the option at the end of each successive term to (1) Terminate this

O&M Contract or (2) extend this O&M Contract for a subsequent five (5) year term, provided that such option may only be exercised four (4) times. Documentation of the Start Date for each system will be as noted on the first invoice submitted to the Utility by the third party monitoring provider required.

3. **Submittal of Documents.** The Operator shall not commence the Work under this O&M Contract until the Operator has submitted and the District has approved the certificate(s) and affidavit(s), and the endorsement(s) of insurance required as indicated below:

<u> X </u>	Signed O&M Contract
<u> X </u>	Workers' Compensation Certification
<u> X </u>	Fingerprinting/Criminal Background Investigation Certification
<u> X </u>	Insurance Certificates and Endorsements
<u> X </u>	W-9 Form
_____	_____

4. **Compensation.** Compensation to Operator for the Work was part of its compensation under the Solar Contract, except as specifically indicated in the description of the Scope of Services herein.

4.1. Payment for Work that requires additional payment shall be made for all undisputed amounts in monthly installment payments within thirty (30) days after the Operator submits an invoice to the District for Work actually completed and after the District's written approval of the Work, or the portion of the Work for which payment is to be made.

4.2. Invoices furnished by Operator under this O&M Contract must be in a form acceptable to the District. All amounts paid by District shall be subject to audit by District.

4.3. The granting of any payment by District, or the receipt thereof by Consultant, shall in no way lessen the liability of Operator to correct unsatisfactory work, although the unsatisfactory character of that work may not have been apparent or detected at the time a payment was made. Work, which does not conform to the requirements of this O&M Contract, may be rejected by District and in that case must be replaced by Operator without delay.

5. **Notice.** Any notice required or permitted to be given under this O&M Contract shall be as indicated in the Solar Contract.

6. **Termination.**

6.1. **Without Cause by District.** District may, at any time, with or without reason, terminate this O&M Contract and compensate Operator only for services satisfactorily rendered to the date of termination. Written notice by District shall be sufficient to stop further performance of services by Operator. Notice shall be deemed given when received by the Operator or no later than three days after the day of mailing, whichever is sooner. In addition, if District terminates this O&M Contract without cause, Operator shall no longer be obligated to provide the Performance Guarantee as defined and as set forth in the Solar Contract and that guarantee shall be immediately terminated and be of no further force and effect.

6.2. **With Cause by Operator.** Operator may terminate this O&M Contract with cause. Cause shall include:

6.2.1. Upon thirty (30) days of Operator's notice of material violation of this O&M Contract by the District;

6.2.2. Upon thirty (30) days of Operator's notice of any act by District exposing the Operator to liability to others for personal injury or property damage; or

6.2.3. Upon Operator's notice to District if District is adjudged a bankrupt, District makes a general assignment for the benefit of creditors or a receiver is appointed on account of District's insolvency.

Written notice by Operator shall contain the reasons for such intention to terminate for cause. District shall have thirty (30) calendar days after that notice to cure Operator's reasons for such intention to terminate for cause, to the reasonable satisfaction of Operator, which shall not be unreasonably withheld. In the event of this termination with cause by Operator, the District may secure the required services from another contractor. If Operator terminates this O&M Contract with cause as permitted in this provision Operator shall no longer be obligated to provide the Performance Guarantee set forth in the Solar Contract and said guarantee shall be immediately terminated and be of no further force and effect. If the District disputes the validity of the termination for cause, the District may seek resolution of said dispute pursuant to the dispute resolution procedures established in the Solar Contract. If a determination is made that the termination was invalid, the Performance Guarantee shall be reinstated and shall be retroactive to the date of termination.

6.3. **With Cause by District.** District may terminate this O&M Contract upon giving of written notice of intention to terminate for cause. Cause shall include:

6.3.1. Upon thirty (30) days of District's notice material violation of this O&M Contract by the Operator; or

6.3.2. Upon thirty (30) days of District's notice of any act by Operator exposing the District to liability to others for personal injury or property damage; or

6.3.3. Upon District's notice to Operator if Operator is adjudged a bankrupt, Operator makes a general assignment for the benefit of creditors or a receiver is appointed on account of Operator's insolvency.

Written notice by District shall contain the reasons for such intention to terminate for cause. Operator shall have twenty (20) calendar days after that notice to cure District's reasons for such intention to terminate for cause, to the reasonable satisfaction of District, which shall not be unreasonably withheld. In the event of this termination with cause, the District may secure the required services from another operator. If the expense, fees, and/or costs to the District exceeds the cost of providing the services pursuant to this O&M Contract, the Operator shall immediately pay the excess expenses, fees, and/or costs to the District upon the receipt of the District's notice of the expenses, fees, and/or costs, provided that the aggregate amount of those expenses, fees and costs shall not exceed twice (two times) the total not-to-exceed compensation amount indicated herein. The foregoing provisions are in addition to and not a limitation of any other rights or remedies available to District. If District terminates this O&M Contract with cause as permitted in this provision, Operator shall remain obligated to provide the Performance Guarantee set forth in the Solar Contract; provided that a substitute operator is engaged without hiatus and has consistently been performing Operator's obligations at least to the standard and in the scope set forth in the O&M Contract entered into by Operator. If the Operator disputes the validity of the termination for cause, the Operator may seek resolution of said dispute pursuant to the dispute resolution procedures established in the Solar Contract. If a determination is made that the termination was invalid, then, at the District's discretion, (1) the termination shall be deemed to be a termination without cause by the District pursuant to the provisions herein above or (2) this O&M Contract shall be reinstated.

7. **Right to Hire.** If Operator fails to perform any of its material obligations ("a Material Breach") under this O&M Contract, the District shall notify the Operator in writing, and if after 30 days upon receiving such notice Operator hasn't corrected the Material Breach, the District shall have the right to hire other contractor(s) to correct the Material Breach at the sole cost and expense of Operator, which Operator shall pay within thirty (30) days of District's invoicing to Operator, provided that the District shall seek fair pricing when selecting

such other contractors.

8. **Indemnification.** To the furthest extent permitted by California law, Operator shall defend, indemnify, and hold free and harmless the District, its agents, representatives, officers, consultants, employees, trustees, and volunteers (“the indemnified parties”) from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity (“Claim”), to property or persons, including personal injury and/or death, to the extent that any of the above arise out of, pertain to, or relate to the negligence, recklessness, errors or omissions, or willful misconduct of Operator, its officials, officers, employees, subcontractors, consultants, or agents directly or indirectly arising out of, connected with, or resulting from the performance of the Services, the Project, or this O&M Contract. The District shall have the right to accept or reject any legal representation that Operator proposes to defend the indemnified parties.

9. **Insurance.**

9.1. The Operator shall procure and maintain at all times it performs any portion of the Services the following insurance with minimum limits equal to the amount indicated below.

9.1.1. **Commercial General Liability and Automobile Liability Insurance.** Commercial General Liability Insurance and any Auto Automobile Liability Insurance that shall protect the Operator, the District, and the State from all claims of bodily injury, property damage, personal injury, death, advertising injury, and medical payments arising performing any portion of the Services. (Form CG 0001 and CA 0001, or forms substantially similar, if approved by the District.)

9.1.2. **Workers’ Compensation and Employers’ Liability Insurance.** Workers’ Compensation Insurance and Employers’ Liability Insurance for all of its employees performing any portion of the Services. In accordance with provisions of section 3700 of the California Labor Code, the Operator shall be required to secure workers’ compensation coverage for its employees. If any class of employee or employees engaged in performing any portion of the Services under this O&M Contract are not protected under the Workers’ Compensation Statute, adequate insurance coverage for the protection of any employee(s) not otherwise protected must be obtained before any of those employee(s) commence performing any portion of the Services.

9.1.3. **Professional Liability (Errors and Omissions).** Professional Liability (Errors and Omissions) Insurance as appropriate to the Operator’s profession.

Type of Coverage	Minimum Requirement
Commercial General Liability Insurance , including Bodily Injury, Personal Injury, Property Damage, Advertising Injury, and Medical Payments	
Each Occurrence	\$ 2,000,000
General Aggregate	\$ 4,000,000
Automobile Liability Insurance - Any Auto	
Each Occurrence	\$ 1,000,000
General Aggregate	\$ 1,000,000
Professional Liability	\$ 1,000,000
Workers Compensation	Statutory Limits
Employer’s Liability	\$ 1,000,000

9.2. **Proof of Carriage of Insurance.** The Operator shall not commence performing any portion of the Services until all required insurance has been obtained and certificates indicating the required coverage have been delivered in duplicate to the District and approved by the District. Certificates and insurance policies shall include the following:

- 9.2.1. A clause stating: "This policy shall not be canceled or reduced in required limits of liability or amounts of insurance until notice has been mailed to the District, stating date of cancellation or reduction. Date of cancellation or reduction shall not be less than thirty (30) days after date of mailing notice."
- 9.2.2. Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.
- 9.2.3. An endorsement stating that the District and the State and their agents, representatives, employees, trustees, officers, consultants, and volunteers are named additional insured under all policies except Workers' Compensation Insurance, Professional Liability, and Employers' Liability Insurance. An endorsement shall also state that Operator's insurance policies shall be primary to any insurance or self-insurance maintained by District.
- 9.2.4. All policies shall be written on an occurrence form.
- 9.3. **Acceptability of Insurers.** Insurance shall be with admitted insurance companies with an A.M. Best rating of no less than A: VII, unless otherwise acceptable to the District.
10. **Assignment / Subcontracting.** Operator may subcontract the Work of this O&M Contract or any part of it only upon prior approval of the District, which shall not be unreasonably withheld. Neither party shall, on the basis of this O&M Contract, contract on behalf of or in the name of the other party. An agreement made in violation of this provision shall confer no rights on any party and shall be null and void.
11. **Compliance with Laws.** Operator shall observe and comply with all rules and regulations of the governing board of the District and all federal, state, and local laws, ordinances and regulations. Operator shall give all notices required by any law, ordinance, rule and regulation bearing on conduct of the Work as indicated or specified. If Operator observes that any of the Work required by this O&M Contract is at variance with any laws, ordinance, rules or regulations, Operator shall notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope of the Work shall be made and this O&M Contract shall be appropriately amended in writing, or this O&M Contract shall be terminated effective upon Operator's receipt of a written termination notice from the District. If Operator performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Operator shall bear all costs arising therefrom.
12. **Certificates/Permits/Licenses.** Operator and all Operator's employees or agents shall secure and maintain in force all certificates, permits and licenses as are required by law in connection with the furnishing of Services pursuant to this O&M Contract.
13. **Employment with Public Agency.** Operator, if an employee of another public agency, agrees that Operator will not receive salary or remuneration, other than vacation pay, as an employee of another public agency for the actual time in which services are actually being performed pursuant to this O&M Contract.
14. **Drug-Free / Smoke Free Policy.** No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, consultants or contractors are to use drugs on these sites.
15. **Anti-Discrimination.** It is the policy of the District that in connection with all work performed under contracts there be no discrimination against any employee engaged in the work because of race, color, ancestry, national origin, religious creed, physical disability, medical condition, marital status, sexual orientation, gender, or age and therefore the Operator agrees to comply with applicable Federal and California laws

including, but not limited to the California Fair Employment and Housing Act beginning with Government Code Section 12900 and Labor Code Section 1735 and District policy. In addition, the Operator agrees to require like compliance by all its subcontractor(s).

16. **Labor Code Requirements.** The Operator shall comply with all applicable provisions of the California Labor Code, Division 3, Part 7, Chapter 1, Articles 1-5, including, without limitation, the payment of the general prevailing per diem wage rates for public work projects of more than one thousand dollars (\$1,000). Copies of the prevailing rate of per diem wages are on file with the District. Operator specifically acknowledges and understands that the District and/or the State monitors and enforces compliance with Labor Code requirements through statutorily-authorized programs and the Operator shall perform the Work of the Project while complying with all the applicable provisions of those programs. The Operator and each subcontractor shall comply with Chapter 1 of Division 2, Part 7 of the California Labor Code, beginning with Section 1720, and including Section 1735, 1777.5 and 1777.6, forbidding discrimination, and Sections 1776, 1777.5 and 1777.6 concerning the employment of apprentices by Operator or subcontractors. Willful failure to comply may result in penalties, including loss of the right to bid on or receive public works contracts. **Registration:** The Operator and its subcontractors shall comply with the registration and qualification requirements pursuant to sections 1725.5 and 1771.1 of the California Labor Code. **Certified Payroll Records:** Operator and its subcontractor(s) shall keep accurate certified payroll records of employees and shall make them available to the District immediately upon request.
17. **Fingerprinting of Employees.** The Fingerprinting/Criminal Background Investigation Certification must be completed and attached to this Contract prior to Operator's performing of any portion of the Services.
18. **No Rights in Third Parties.** This O&M Contract does not create any rights in, or inure to the benefit of, any third party except as expressly provided herein.
19. **Limitation of District Liability.** Other than as provided in this O&M Contract, District's financial obligations under this O&M Contract shall be limited to the payment of the compensation provided in this O&M Contract. Notwithstanding any other provision of this O&M Contract, in no event, shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, arising out of or in connection with this O&M Contract for the services performed in connection with this O&M Contract.
20. **Conflict of Interest.** Through its execution of this O&M Contract, Operator acknowledges that it is familiar with the provisions of section 1090 et seq. and Section 87100 et seq. of the Government Code of the State of California, and certifies that it does not know of any facts which constitute a violation of said provisions. In the event Operator receives any information subsequent to execution of this O&M Contract, which might constitute a violation of said provisions, Operator agrees it shall notify District of this information.
21. **Integration/Entire Contract of Parties.** This O&M Contract constitutes the entire agreement between the Parties related to the Work of this O&M Contract and supersedes all prior discussions, negotiations, and agreements, whether oral or written. This O&M Contract may be amended or modified only by a written instrument executed by both Parties.
22. **California Law.** This O&M Contract shall be governed by and the rights, duties and obligations of the Parties shall be determined and enforced in accordance with the laws of the State of California. The Parties further agree that any action or proceeding brought to enforce the terms and conditions of this O&M Contract shall be maintained in the county in which the District's administrative offices are located.
23. **Disputes:** In the event of a dispute between the parties as to performance of Work, O&M Contract interpretation, or payment, the Parties shall attempt to resolve the dispute by negotiation and/or mediation, if agreed to by the Parties. Pending resolution of the dispute, Operator shall neither rescind the Contract nor stop Work.

- 24. Waiver.** The waiver by either party of any specific breach of any term, covenant, or condition herein contained shall not be deemed to be a waiver of that term, covenant, condition, or any subsequent breach of the same or any other term, covenant, or condition herein contained.
- 25. Severability.** If any term, condition or provision of this O&M Contract is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions will nevertheless continue in full force and effect, and shall not be affected, impaired or invalidated in any way.
- 26. Authority to Bind Parties.** Neither party in the performance of any and all duties under this O&M Contract, except as otherwise provided in this O&M Contract, has any authority to bind the other to any agreements or undertakings.
- 27. Attorney Fees/Costs.** Should litigation be necessary to enforce any terms or provisions of this O&M Contract, then each party shall bear its own litigation and collection expenses, witness fees, court costs and attorney's fees.
- 28. Captions and Interpretations.** Paragraph headings in this O&M Contract are used solely for convenience, and shall be wholly disregarded in the construction of this O&M Contract. No provision of this O&M Contract shall be interpreted for or against a party because that party or its legal representative drafted that provision, and this O&M Contract shall be construed as if jointly prepared by the Parties.
- 29. Calculation of Time.** For the purposes of this O&M Contract, "days" refers to calendar days unless otherwise specified.
- 30. Signature Authority.** Each party has the full power and authority to enter into and perform this O&M Contract, and the person signing this O&M Contract on behalf of each Party has been properly authorized and empowered to enter into this O&M Contract.
- 31. Counterparts.** This O&M Contract and all amendments and supplements to it may be executed in counterparts, and all counterparts together shall be construed as one document.
- 32. Incorporation of Recitals and Exhibits.** The Recitals and each exhibit attached hereto are hereby incorporated herein by reference.

IN WITNESS WHEREOF, the Parties hereto have executed this O&M Contract on the date indicated below.

Dated: _____, 20__

Dated: _____, 20__

Piedmont Unified School District

_____, **Inc.**

By: _____

By: _____

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____

FORM OF AGREEMENT

Exhibit C

Detailed Construction Schedule for Each Site

[INCLUDE A DETAILED CPM CONSTRUCTION SCHEDULE THAT MEETS ALL THE MILESTONES IN THE MILESTONE SCHEDULE]

Form for Project Schedule for each Site

SCHOOL	
Milestone	Milestone Date
Award of contract	
Notice to proceed	
Schematic design submitted to district for approval	
Schematic design approved by District	
DSA package submitted to DSA and District	
DSA approval	
Construction Begins	
Completion	
Designer/Builder Requests Permission to Operate Letter From Utility	
Permission to Operate Letter Issued by Utility	
O&M Services and Performance Guarantee Start Date (estimated)	

Completion Date noted in this table applies only to the Construction portion of this Contract and not to the Operations & Maintenance terms, as described in **Exhibit B**, nor the Performance Guarantee terms as described in **Exhibit G**.

Designer/Builder acknowledges the District’s Instructional Calendar that has already been provided and shall coordinate its work to not disrupt, in any way, District activities, including testing, at each Site. At the time of execution of this Contract, the District’s school site test calendars with the exact dates of testing activities are still being prepared. Those will be provided to Designer/Builder as soon as they are ready.

Designer/Builder shall include in its construction schedule at least fifteen (15) weekdays at elementary school sites and at least twenty (20) weekdays at intermediate school sites and high school sites when Designer/Builder shall not be permitted to perform any work at the site.

Exhibit D

Pricing Items and Payment Provisions

These provisions have been agreed to by Designer/Builder and District set forth the terms and conditions for the purchase and sale of solar generated electric energy from the solar panel system described in **Exhibit F** (“the **System(s)**”) installed at the School Sites.

1. **Term:** Twenty-five (25) years, beginning on the Commercial Operation Date.
2. **Additional Terms:** Up to two (2) Additional Terms of five (5) years each.
3. **Environmental Incentives and Environment Attributes Accrue to District.**

4. **Contract Price:**

Price per kilowatt hour (\$/kWh) for Contract Year One (1) through Contract Year Twenty-Five (25)	\$0.0000
---	----------

5. **Scheduled Commercial Operation Date:** _____

6. **Purchase Option Price:**

End of Contract Year	Option Price
6	Fair Market Value
10	Fair Market Value
25	Fair Market Value

7. **Termination Value:**

Contract Year	Termination Value
1	\$0.0000
2	\$0.0000
3	\$0.0000
4	\$0.0000
5	\$0.0000
6	\$0.0000
7	\$0.0000
8	\$0.0000
9	\$0.0000
10	\$0.0000
11	\$0.0000
12	\$0.0000
13	\$0.0000
14	\$0.0000
15	\$0.0000
16	\$0.0000
17	\$0.0000
18	\$0.0000
19	\$0.0000
20	\$0.0000
21	\$0.0000
22	\$0.0000

23	\$0.0000
24	\$0.0000
25	\$0.0000

8. Estimated Annual Production:

Contract Year	Estimated Annual Production (kWh)
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____
11	_____
12	_____
13	_____
14	_____
15	_____
16	_____
17	_____
18	_____
19	_____
20	_____
21	_____
22	_____
23	_____
24	_____
25	_____

9. Allowance: The District will provide an allowance of funds (“Allowance”) in order to fund any change orders or other additional work as the District directs, pursuant to the following terms:

- a. All Allowance amounts can only be used as directed by the District.
- b. All Allowance amounts are used exclusively for the District's purposes and for scope(s) of work as directed by District.
- c. The Designer/Builder will prepare detailed breakdown of all costs associated with the work defined for the Allowance. These amounts will be charged against the Allowance based on final detailed payment receipts and back-up as required by District, and will include all costs of work performed under the defined work scope.
- d. If required by District, Designer/Builder shall obtain quotes for equipment from three separate vendors and present to District for consideration and selection.
- e. Designer/Builder shall not include in its pricing for any use of the Allowance amount, any cost of coordination, supervision, bond costs, installation or indirect project costs associated with performing

the work of each Allowance. Designer/Builder shall be permitted to charge only its direct costs plus five percent (5%) to perform the work of any use of the Allowance amount, as indicated through documentation approved by the District.

FORM OF AGREEMENT

Exhibit E

SCHEDULE OF VALUES (DRAFT)

[INCLUDE A DETAILED SOV THAT MEETS ALL REQUIREMENTS]

Form of Schedule of Values for Each Site

Designer/Builder shall prepare a detailed schedule of values for all of the Work that must include quantities and prices of items aggregating the Contract Price and must subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. This schedule of values must be approved by the District prior to it being used as a basis for payment.

<u>Schedule of Values</u>		
<u>Activity Name</u>		<u>Percent of Total</u>
<u>Notice to Proceed</u>		0%
<u>Preconstruction Work</u>		
	Design Development	3%
	100% Design completed	4%
	DSA Approval	3%
	Management Labor	1%
<u>Construction</u>		
	Temp Facilities	2%
	Foundations	5%
	Structural Install	20%
	Management Labor	1%
	PV Delivery	10%
	Equipment Delivery	10%
	Electrical installation	20%
	Interconnection	6%
	Commissioning	5%
	Testing	4%
	Management Labor	3%
<u>Final Completion</u>		
	Training	0%
	Punch List	1%
<u>DSA Close out</u>		
	DSA Certification	2%
		100%

**Exhibit F
INITIAL LAYOUT AND STAGING DOCUMENTS AND LIST OF PLANS AND SPECIFICATIONS**

**Initial Layout and Staging Rendering –
_____ School
List of Plans and Specifications**

[SAMPLE – EACH SITE MUST HAVE ITS OWN LAYOUT, DOCUMENTS, ETC.]

<u>SHEET NO.</u>	<u>SHEET NAME</u>
S0.0	TITLE SHEET
S1.0	GENERAL NOTES
S1.0A	GENERAL NOTES
△ 1 S1.1	SPECIFICATIONS
△ 1 S1.1A	SPECIFICATIONS
△ 1 S1.1B	SPECIFICATIONS
△ 1 S2.0	STANDARD AND FOUNDATION DETAILS
△ 1 S2.1	FOUNDATION DETAILS
△ 1 S2.2	FOUNDATION DETAILS
△ 1 S3.0	STANDARD DOUBLE ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
△ 1 S3.0A	STANDARD DOUBLE ARRAY OPTION SPREAD FOOTING / GRADE BM FOUNDATION PLAN
△ 1 S3.1	STANDARD SLOPE UP ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
△ 1 S3.1A	STANDARD SLOPE UP ARRAY OPTION SPREAD FOOTING / GRADE BM FOUNDATION PLAN
△ 1 S3.2	STANDARD SLOPE DOWN ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
△ 1 S3.2A	STANDARD SLOPE DOWN ARRAY OPTION SPREAD FOOTING / GRADE BM FOUNDATION PLAN
S3.3	SPECIAL DOUBLE ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
S3.4	SPECIAL SLOPE UP ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
S3.5	SPECIAL SLOPE DOWN ARRAY OPTION FOUNDATION AND ROOF FRAMING PLAN
S4.0	FRAME ELEVATION AND DETAILS
△ 1 S4.1	FRAME ELEVATIONS
△ 1 S4.2	DETAILS

PLANS / DRAWINGS

<u>Sheet number</u>	<u>File number</u>	<u>Description</u>
---------------------	--------------------	--------------------

[LIST ALL PLANS AND/OR DRAWINGS FOR PROJECT]

SPECIFICATIONS

<u>Specification Description</u>	<u>Specification Number</u>
----------------------------------	-----------------------------

[LIST ALL SPECIFICATIONS FOR PROJECT]

Exhibit G
PERFORMANCE GUARANTEE

Contract for Performance Guarantee and Parameters and Energy Output Data for School Sites

This Contract for Performance Guarantee and Parameters and Energy Output Data for School Sites (“**PeGu Contract**”) dated [_____] (“**Effective Date**”), is entered into by and between _____ (“**Provider**”), and Piedmont Unified School District, a California school district (“**District**” or “**Customer**”). In this PeGu Contract, Provider and Customer are referred to individually as a “**Party**” and collectively as the “**Parties**.”

Recitals

WHEREAS, The Customer and the Provider entered into a Solar Contract for Design and Construction (“**Solar Contract**”) pursuant to which to which Provider has designed and constructed a System for the production of energy for the District’s use; and

WHEREAS, Provider and Customer desire to enter into an agreement pursuant to which Provider will guarantee annual energy generation by the System;

NOW, THEREFORE, FOR GOOD AND VALUABLE CONSIDERATION, the receipt and adequacy of which is hereby acknowledged, Provider and Customer agree as follows:

1. Defined Terms.

- 1.1. **Actual Generation** means, for each Guarantee Year during the Term, the System’s alternating current or “AC” electricity production in kilowatt-hours (“kWh”) as measured pursuant to the provisions and formulas herein under “Guaranteed Payment.”
- 1.2. **Avoided Energy Price per kWh** means the amount that the Customer will be paid for each Kilowatt-hour as set out in **Attachment A: Avoided Energy Price**.
- 1.3. **Commissioning Date** means the date the System is capable of commercial deliveries of energy to the full extent of its designed capacity and commences delivery of energy for sale or use.
- 1.4. **Customer Responsibilities** shall have the meaning set forth herein.
- 1.5. **Data Acquisition System or DAS** means Provider’s system that displays historical meteorological and production data over an Internet connection and consists of hardware located on-site and software housed on Provider’s DAS server. The DAS measures and logs, at a minimum, the following parameters on a 15-minute average basis at the Sites: actual AC electricity production of the System (in kWh) and solar irradiance (in W/m^2).
- 1.6. **Expected Energy** means, for the System in a specified Guarantee Year, the kilowatt hours set forth in the Attachments A and B of this PeGu Contract for each Site.
- 1.7. **Force Majeure** means the same as that term is defined in the Solar Contract.
- 1.8. **Guaranteed Level** means one hundred percent (100%) of the Expected Energy for a Guarantee Year for specified System(s).
- 1.9. **Guarantee Year** means each successive 12-month period during the Term commencing on the first day of the Term.
- 1.10. **Kilowatt-hour or kWh** means electrical energy expressed in kilowatt-hours and recorded from the kWh interval records of the Revenue Meter.
- 1.11. **Operations & Maintenance Contract** (or “O&M” Contract) means that certain Operations & Maintenance Contract of even date herewith between _____ and _____.
- 1.12. **PVSim** means the software program utilized by Provider to predict the amount of energy a Solar Power System will produce in an average year which currently has the following characteristics: (1) based on PVFORM, the photovoltaic simulation software produced by Sandia National Laboratories and the US Department of Energy, (2) all photovoltaic characteristics are modeled, (3) all ancillary array losses are taken into account and (4) PVSim simulations use either measured data or typical meteorological year

files from Meteonorm and NREL.

- 1.13. **Revenue Meter** means the principal meter of a given System from which energy output is read and documented.
 - 1.14. **SEMMY** or Simulated Energy in a Measured Meteorological Year, means, with respect to any Guarantee Year, Year 1 AC Energy output of the System simulated by PVSIM using measured average hourly irradiance, wind speed, and air temperature as recorded by the Data Acquisition System, holding all other inputs equal to those used in calculating SETMY.
 - 1.15. **SETMY** or Simulated Energy for a Typical Meteorological Year, means the Year 1 AC Energy output of the System simulated by PVSIM using average hourly irradiance, wind speed, and air temperature data contained within the Weather File.
 - 1.16. **Site** means the real estate where the System and any support structure are located including any building and building roof that touch or support the System.
 - 1.17. **System** means Customer's photovoltaic system located at the Site(s) and purchased from Provider as more particularly identified in the Solar Contract.
 - 1.18. **Subcontractor** means, any person or firm who contracts with Provider or with any contractor of any tier operating under a contract with Provider to provide or furnish any supplies, materials, equipment, or services of any kind, whether design, construction, service, or otherwise, for the System.
 - 1.19. **Term:** The Performance Guarantee Start Date is the date of the Permission to Operate Letter from the Utility for the specific Site. The termination provisions in the Operations & Maintenance Contract shall alter the enforceability of the Performance Guarantee, as indicated in those termination provisions.
 - 1.20. **True-up Period** means each successive two (2) year period during the Term commencing on the first day of the Term.
 - 1.21. **Weather Adjustment** means the method for reconciling expected kWh during a typical weather year with the actual meteorological conditions measured on-site, pursuant to the provisions and formulas herein under "Guaranteed Output Calculations."
 - 1.22. **Weather File** means the following typical meteorological year data set, which contains average hourly values of measured solar radiation, temperature, and wind speed: _____ NREL TMY3.
2. **Guaranteed Output Calculations.**
 - 2.1. Provider shall calculate the Annual Deficit for each Guarantee Year during the Term:
Annual Deficit = (Expected Energy x Guarantee Level) x Weather Adjustment) - Actual Generation
 - 2.2. Where "Weather Adjustment" means the following ratio:
$$\frac{\text{Simulated Energy in a Measured Meteorological Year (SEMMY)}}{\text{Simulated Energy for a Typical Meteorological Year (SETMY)}}$$
 - 2.3. For each Guarantee Year, Provider shall calculate the Annual Deficit.
3. **Guarantee Payment.**
 - 3.1. At the end of each True-up Period:
 - 3.1.1. if the \sum Annual Deficits > 0, then Provider shall pay to Customer an amount equal to the product of (i) the Annual Deficit and (ii) the Avoided Energy Price per kWh for each Guarantee Year, with each product then aggregated for the Guarantee Years comprising such True-Up Period (a "Guarantee Payment");
 - 3.1.2. Provider shall, by invoice, promptly notify Customer of any Guarantee Payment due. A Guarantee Payment shall be payable within thirty (30) days of the date of such invoice.
 - 3.1.3. Provider shall provide Customer with a report detailing the calculations set forth in the "Guaranteed Output Calculations" and the "Guarantee Payment" Sections. This report shall contain sufficient information for the Customer to be able to determine the accuracy of Provider's conclusion as the amount, if any, of Guarantee Payment.
4. **Actual Generation Measurement.** The process for measuring Actual Generation for each Guarantee Year shall be:
 - 4.1. **Initial Output Data Collection.** During the Term, Provider will collect energy output data using its Data Acquisition System. For each Guarantee Year, Provider will sum the daily kWh output provided by the DAS to calculate the Actual Generation for such Guarantee Year.
 - 4.2. **Equipment Calibration and Replacement.** Provider may request to have the meteorological equipment independently calibrated or replaced at its own expense every eighteen to thirty months. Provider shall

notify the other party of the scheduled calibration date and time no less than 30 days prior, and shall provide the Customer written proof of calibration or replacement.

- 4.3. **Contingency for Equipment Failure.** In the event of hardware, communication, or other failure affecting the DAS, Provider will make commercially reasonable efforts to resolve the failure in a timely manner. In the event that data is lost, Actual Generation shall be adjusted to compensate for such lost data, which shall be Provider's sole liability, and Customer's exclusive remedy, for any Guaranteed Output arising from any equipment failure or lost data relating to the DAS:

4.3.1. In lieu of lost meteorological data, Provider will utilize such data obtained from a nearby meteorological station that Provider monitors and selects for such purpose.

4.3.2. In lieu of lost electricity data, Provider will utilize the cumulative data from System meter readings to calculate the electricity generated during the missing interval. In the event that data from the System meter is inaccurate or missing, Provider will simulate electricity production during the missing interval utilizing measured meteorological data and PVSIM. The simulated electricity production during the missing interval will be added to the Actual Generation for the subject Guarantee Year.

5. Guarantee.

5.1. Provider guarantees to Customer that the Actual Generation of the System during any Guarantee Year, subject to the limitations, terms and conditions stated in the Solar Contract, into which this Performance Guarantee Standard Terms ("PeGu Contract") is incorporated, shall be not less than the product of the Guaranteed Level and the Expected Energy, as adjusted for measured meteorological conditions per the Weather Adjustment as defined herein.

6. Customer Responsibilities.

6.1. Throughout the Term, and as conditions to the obligations of Provider hereunder, Customer shall:

6.1.1. maintain an Operations & Maintenance Contract with Provider for the System and allow repairs in a timely fashion as may be recommended from time to time by Provider;

6.1.2. not be in breach of any Customer obligations under the Solar Contract;

6.1.3. grant reasonable access to the System by Provider personnel and representatives;

6.1.4. insure that Primary and Secondary Contacts have the capability to resolve any failures of DAS communications, and

6.1.5. not modify, alter, damage, service, shade, or repair, without Provider's prior written approval, any part of the System, the supporting structure for the System (including building roof, if applicable), or the associated wiring.

7. Customer's Failure to Uphold Responsibilities.

7.1. Provider's obligations under this PeGu Contract shall be suspended for the duration of Customer's failure to satisfy one or more of Customer Responsibilities as indicated herein. Provider shall promptly notify Customer of any such failures ("Out of Compliance Letter"), but in no case later than seventy-two (72) hours after notice of any alleged failure of Customer to satisfy one or more of Customer Responsibilities. Upon Customer's cure of all failures described in an Out of Compliance Letter, Provider will notify Customer ("In Compliance Letter") that Customer is complying with Customer Responsibilities. For any period between the issuance of an Out of Compliance Letter and of an In Compliance Letter (a "Noncompliance Period"), Provider shall have no liability under this PeGu Contract. Each month in which there is a Noncompliance Period and any Actual Generation in such month(s) shall be disregarded in the calculation of Annual Deficits or Annual Surpluses as indicated herein and the Expected kWh for any Guarantee Year in which there is a Noncompliance Period shall be reduced by an amount proportionate to the period so disregarded and to the actual or reasonably estimated meteorological data during such period.

7.2. Any dispute as to whether Customer in fact has failed to satisfy one or more of Customer Responsibilities shall be resolved pursuant to the Dispute provisions below.

8. Adjustment of Expected Energy.

8.1. If, and to the extent, any of the following events results in a change in the production of electricity by the System, Expected Energy shall be adjusted correlatively for the period of such change:

8.1.1. There is structural failure in a building supporting the System;

8.1.2. There is any failure of the System to perform caused by legislative, administrative or executive

action, regulation, order or requisition of any federal, state or local government, local utility or public utilities commission;

8.1.3. There is an event of Force Majeure; or

8.1.4. There is any change in usage of or structures on any of the Sites, or buildings at or near any of the Sites, which causes additional shading, soiling, or otherwise reduced performance of the System.

9. Notification of Changes to Expected Energy.

If either Party determines that any changes to Expected Energy are required based on an event or events described herein that, then that Party shall notify the other Party in writing of the basis for its determination and shall either provide revised definitions of Expected Energy in Attachments. The Parties shall negotiate in good faith whether to revise the Expected Energy and, if mutually agreed to by the Parties, the Parties shall revise this PeGu Contract pursuant to the terms of this PeGu Contract.

10. Additional Provisions.

10.1. Notices. All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed to have been received as indicated below and to the persons indicated below. If notice is given by personal delivery thereof, it shall be considered delivered on the day of delivery. If notice is given by overnight delivery service, it shall be considered delivered on (1) day after date deposited, as indicated by the delivery service. If notice is given by depositing same in United States mail, enclosed in a sealed envelope, it shall be considered delivered three (3) days after date deposited, as indicated by the postmarked date. If notice is given by registered or certified mail with postage prepaid, return receipt requested, it shall be considered delivered on the day the notice is signed for.

If to District:	If to Provider:
Piedmont Unified School District _____, CA 9 _____ Attention: _____ Telephone: () _____-_____ Facsimile: () _____-_____ 	_____ Corporation _____, CA 9 _____ Attention: _____ Telephone: () _____-_____ Facsimile: () _____-_____

10.2. Disputes. Disputes between the parties arising out of this PeGu Contract shall be resolved by the following processes:

10.2.1. **Negotiation.** The parties shall first attempt in good faith to resolve any controversy or dispute arising out of or relating to this PeGu Contract by negotiation.

10.2.2. **Mediation.** Within 30 days, but no earlier than 15 days, following the earlier of (1) receipt of notice by one party by the other party of a demand for mediation, the parties shall submit the dispute to non-binding mediation administered by the AAA (or other agreed upon rules) under its construction industry mediation rules, unless waived by mutual stipulation of both parties.

10.2.3. **Litigation.** Disputes arising from this PeGu Contract that cannot be settled through negotiation or mediation (after those processes have been exhausted) shall be litigated in the California Superior Court in the county in which the Project that is the subject of this PeGu Contract is located.

10.3. Amendments.

This PeGu Contract may not be amended, supplemented or otherwise modified except by a written instrument specifically referring to this PeGu Contract and signed by both parties, or as specifically allowed under the terms and conditions outlined in this PeGu Contract

10.4. Severability.

If any part of this PeGu Contract shall be invalid or unenforceable under any applicable law, such invalidity or unenforceability shall not affect the enforceability of any other part hereof.

10.5. Counterparts.

This PeGu Contract may be executed in any number of counterparts, each of which shall be deemed to be

an original and all of which together shall constitute one and the same instrument.

10.6. Successors and Assigns.

Except as provided herein, no party may assign this PeGu Contract without the prior written consent of the other party. Such consent shall not be unreasonably withheld. Either party may assign the PeGu Contract without consent to a parent or subsidiary, an acquirer of assets, or a successor by merger. Nothing in this PeGu Contract, expressed or implied, is intended to confer any rights, remedies, obligations or liabilities under or by reason of this PeGu Contract upon any person or entity other than the parties.

IN WITNESS WHEREOF, the Parties hereto have executed this Contract for Performance Guarantee and Parameters and Energy Output Data for School Sites on the date indicated below.

Dated: _____, 20__

Dated: _____, 20__

Piedmont Unified School District

_____ **Corporation**

By: _____

By: _____

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____

FORM OF AGREEMENT

Attachment A: Avoided Energy Price

Guarantee Year	Utility Avoided Cost Rate	Avoided Energy Price (\$/kWh)
1	\$0.____	\$0.____
2	\$0.____	\$0.____
3	\$0.____	\$0.____
4	\$0.____	\$0.____
5	\$0.____	\$0.____
6	\$0.____	\$0.____
7	\$0.____	\$0.____
8	\$0.____	\$0.____
9	\$0.____	\$0.____
10	\$0.____	\$0.____
11	\$0.____	\$0.____
12	\$0.____	\$0.____
13	\$0.____	\$0.____
14	\$0.____	\$0.____
15	\$0.____	\$0.____
16	\$0.____	\$0.____
17	\$0.____	\$0.____
18	\$0.____	\$0.____
19	\$0.____	\$0.____
20	\$0.____	\$0.____

FORM OF AGREEMENT

Attachment B: Expected Energy

_____ School

Guarantee Year	Annual kWh
1	____,000
2	____,000
3	____,000
4	____,000
5	____,000
6	____,000
7	____,000
8	____,000
9	____,000
10	____,000
11	____,000
12	____,000
13	____,000
14	____,000
15	____,000
16	____,000
17	____,000
18	____,000
19	____,000
20	____,000
Total	____,____,000

FORM OF AGREEMENT

Attachment C: Typical Solar Insolation and AC Energy

_____ School

Time Range	Daylight Hours	Gh (kWh/m²/day)	Ipoa (kWh/m²/day)	AC Energy (kWh)
Jan	_____	_____	_____	_____,000
Feb	_____	_____	_____	_____,000
Mar	_____	_____	_____	_____,000
Apr	_____	_____	_____	_____,000
May	_____	_____	_____	_____,000
Jun	_____	_____	_____	_____,000
Jul	_____	_____	_____	_____,000
Aug	_____	_____	_____	_____,000
Sep	_____	_____	_____	_____,000
Oct	_____	_____	_____	_____,000
Nov	_____	_____	_____	_____,000
Dec	_____	_____	_____	_____,000
Year 1	_____	_____	_____	_____,000

This table is for informational purposes only; this table does not affect the Parties' respective obligations.

Exhibit H

WARRANTIES

The following warranties are the standard warranties from the manufacturers of components of the System. Designer/Builder is assigning these warranties to the District and these warranties shall not, in any way, reduce or limit the Performance Guarantee and/or any additional warranty terms or durations indicated in the Contract.

Photovoltaic Module Warranty

_____ -year

Inverter Warranty

_____ -year

Designer/Builder shall provide Owner with an extended manufacturer's warranty for the inverters for an additional _____ years (for a total inverter(s) warranty period to the District of _____ (_____) years) under the same terms as the following terms of the initial _____ (_____) year warranty from the manufacturer.

FORM OF AGREEMENT

EXHIBIT I

DIVISION 1 DOCUMENTS TO BE INSERTED HERE

FORM OF AGREEMENT

Attachment 5- PV Solar cost proposal	Cost In Over	Cost Outsi	Total PV Sys	Scope Clarification
PV Panel Cost Breakdown				
Steam Bld PV System				
Window Shade panels & partial infrastructure	\$194,000		\$194,000	In GMP: all flat roof/mansard stansions (trellis grid NIC) includes all conduit runs-stub out to x3 trellis, incl inverters and wire pulls for window shade panels only, PV window shade panels
Trellis panels, engineering, and x2 art				outside GMP: cost includes x3 trellis grids, conduit, wire, inverters & PV panels
Mansard and flat roof panels				outside GMP: cost includes mansard and flat roof panels and all related inverters and wire pull
Sub totals-->	\$194,000			
LG panel cost increase from LG 365 Neon R to LG 375 W Neon (must issue PO in the next 30 days no later than 12/1/19)				
Total Steam Bld PV System Cost --->				
Theater Bld PV System				
Window Shade panels & partial infrastructure	\$90,000			In GMP: all flat roof/mansard stansions includes all conduit runs, inverters and wire pulls for window shade panels only, PV window shade panels
Mansard and flat roof panels				outside GMP: cost includes mansard and flat roof panels and all related inverters and wire pull
Sub totals-->	\$90,000			
LG panel cost increase from LG 365 Neon R to LG 375 W Neon (must issue PO in the next 30 days no later than 12/1/19)				
Total Theater Bld PV System Cost-->				
Total Steam & Theater PV System Cost-->	\$284,000			

Attachment 5: PV Solar Cost Proposal Worksheet

	Two New Buildings – No PPA Escalator	Two New Buildings – PPA Escalator
PPA Rate (\$/kWh) – Year 1		
PPA Rate (\$/kWh) – 25 year average		
Annual Escalator		
PPA Term		
Upfront cost to PUSD		
Pre-Solar Utility Bill Cost		
Post-Solar Utility Bill Cost		
Solar PPA Payments Due in Year 1		
Yr 1 Estimated Savings		
Discount to Pre-Solar Utility Bill Cost		
Estimated 25 year savings		

Attachment 6: Supplemental Docs



200 Parr Boulevard, Richmond, CA 94801
p (510) 234-0926 f (510) 237-2435 www.overaa.com

SUBMITTAL: 37.1

Job No: 3453- Piedmont High School STEAM & Theater

Owner Ref No.:

Originated by: Pacific Power & Systems, Inc.

Date: 10/29/2019

To: Pete Palmer
Piedmont Unified School District

Piedmont, CA 94611

From: Justin Hennis
C. Overaa & Co.
200 Parr Blvd.
Richmond, NC 94801

Phone: 510.234.0926

Fax: 510.237.2435

Email: justinh@overaa.com

Email: Ppalmer@piedmont.k12.ca.us

Subject: PV Panels & Inverter
Submittal No. 37.1

Date Due: **11/13/2019**

The items listed below are being submitted for approval. In order to maintain schedule, please review and return this submittal on or before the due date indicated above.

Register No. /Revision	Copies Sent	Copies to be Returned	Spec Section	Spec Sub Section	Description
734.1	1	1	263100		Photovoltaic System Product Data

Notes:

Cc:

- No Exceptions Taken Revise and Resubmit
 Make Corrections Noted Rejected. See Remarks

Review is only for general conformance with the design concept of the project and general compliance with the information included in the Contract Documents. Any action shown is subject to the requirements of the Contract Documents. Contractor is responsible for correlating and confirming dimensions at the job site; choice of fabrication processes and techniques of construction; coordination of his work with that of other trades; and performing the work in a safe and satisfactory manner.

HKIT Architects

DATE: 11/05/19 BY: F. Hunziker

SEOR has confirmed revised PV panel is structurally acceptable in terms of mechanical load tests and anchorage.

Note that revised PV panel will require 2 of the inverters to change from 30kW to 33.3kW, see next page for a markup. This should be reflected in the contractor's shop drawings which haven't been submitted yet.

See following pages for Electrical engineer response.

ELECTRICAL FEEDER TABLE (COPPER)

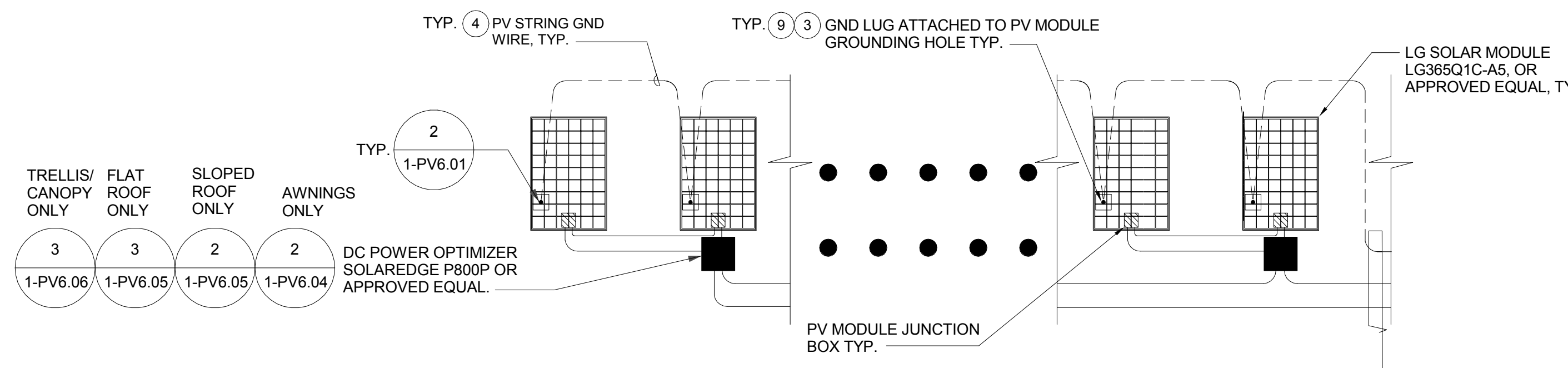
Table with columns for Feeder Code, Conduit, Phase, Neutral, Equip Ground, Isolated Ground, and various feeder codes (F320, F330, etc.)

Table with columns for Feeder Code, Conduit, Phase, Neutral, Equip Ground, Isolated Ground, and various feeder codes (F220, F230, etc.)

NOTES: A. CONDUIT SIZES ARE MINIMUM... B. ABOVE 86 DEG. F. (30 DEG. C) AMBIENT INCREASE WIRE SIZE PER NATIONAL ELECTRICAL CODE (NEC) C. DERATE WIRE SIZE PER NEC FOR UNDERGROUND WORK

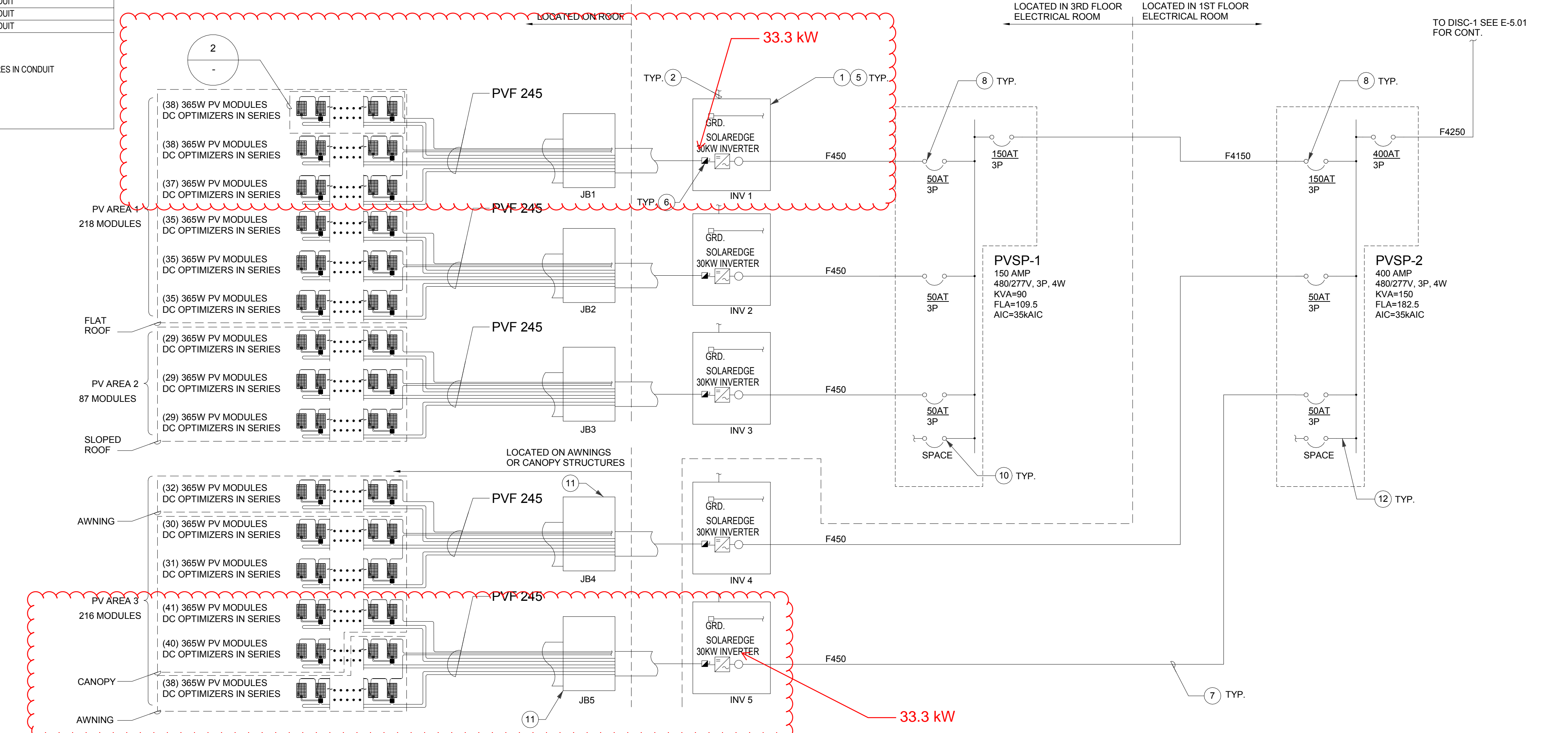
Table with columns for Feeder Code, Conduit, Phase, Neutral, Equip Ground, Isolated Ground, and various feeder codes (PVF215, PVF220, etc.)

NOTES: A. CONDUIT SIZES ARE MINIMUM... B. ABOVE 86 DEG. F. (30 DEG. C) AMBIENT INCREASE WIRE SIZE PER NATIONAL ELECTRICAL CODE (NEC) C. DERATE WIRE SIZE PER NEC FOR UNDERGROUND WORK



2 TYPICAL PV STRING NOT TO SCALE

PV SYSTEM SIZE 521 MODULES 190.165 KW



1 PV SINGLE LINE DIAGRAM SCALE: NTS

GENERAL NOTES

- A. PROVIDE SIGNAGE TO INDICATE THE LOCATION OF THE PV SYSTEM DISCONNECT(S) PER PG&E'S RULES, REGULATIONS AND REQUIREMENTS. AT MINIMUM SIGNAGE SHALL BE ENGRAVED LAMICOID NAMEPLATE SIZED TO MEET PG&E'S RULES REGULATIONS AND REQUIREMENTS. B. CERTAIN FEEDER AND BRANCH CIRCUIT WIRE SIZES HAVE BEEN OVERSIZED TO COMPENSATE FOR VOLTAGE DROP...

SHEET NOTES

- 1. PROVIDE THE INVERTER SOLAREEDGE STRING LEVEL PV MONITORING SOFTWARE AND ALL PARTS AND PIECES NECESSARY FOR A FULLY FUNCTIONAL SOLAREEDGE MONITORING SYSTEM. 2. SOLAREEDGE PV INVERTERS SHALL BE DAISSY CHAINED TOGETHER WITH A RS-485 CABLE WHEN MORE THAN ONE INVERTER IS INSTALLED...

PTN: 61275-23

FILE: 1-H9 IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT APPL. 01-117533 AC FLS SS DATE

INCREMENT 1 PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

800 MAGNOLIA AVENUE PIEDMONT, CA 94611 JOB NO. 70100.01 DRAWN Author CHECKED Checker JOB CAPTAIN Approver

Table with columns DATE and DESCRIPTION. Row 7: 5/09/2019 ADDENDUM #7

DRAWING TITLE PV SINGLE LINE DIAGRAMS

RFI 37.1 RESPONSE

SCALE 1/8" = 1'-0"

1-PV5.01

Submittal Review



427 13th Street
Oakland CA 94612
Tel 510 663-2070
Fax 510 663-2080
www.integralgroup.com

Project Title: PUSD STEAM
Submittal No.: 26 31 00-1.1 (37.1)
Submittal Subject: PV Panels & Inverter
Date submittal received: 2019-10-29
Reviewed by: Rohan Mainkar Date: 2019-11-04

SUBMITTAL

RETURNED HEREWITH, HAS BEEN REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS TO THE EXTENT SHOWN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, FIELD CONDITIONS, PERFORMANCE AND COORDINATING WITH OTHER TRADES AND IS NOT RELIEVED FROM RESPONSIBILITY FOR UNAUTHORIZED DEVIATIONS FROM CONTRACT DOCUMENTS.

REVIEW STATUS:

- NO EXCEPTIONS TAKEN NOT REVIEWED
 MAKE CORRECTIONS NOTED
 REVISE AND RESUBMIT
 REJECTED

COMMENTS:

General Comments:

1. Contractor shall install all items in submittal per the Construction Documents, Manufacturer's Specifications and Installation Guide, all applicable codes and standards, and the NEC, Unless Otherwise Noted.
2. Contractor shall provide and install all parts and pieces necessary to provide fully functional electrical systems.
3. For any deviation in the design from the Construction Documents, the Contractor shall assume the responsibility of ensuring that the Electrical System meets requirements of the Construction Documents and the owner. The Contractor shall also assume the responsibility of paying for additional costs incurred by deviations from the design in the Construction Documents.
4. Electrical Engineer only reviewed Electrical components in the submittal. Contractor shall refer to other disciplines for additional comments if applicable.
5. Device and equipment finish, and colors not reviewed. Architect shall review and select all finishes and colors for all devices and equipment.

NO EXCEPTIONS TAKEN – LG – LG375Q1C-V5 PV Module

NO EXCEPTIONS TAKEN – SCHNEIDER ELECTRIC Heavy-Duty Safety Switches – Electrical Interlock Kits & Cover Viewing Window.

NO EXCEPTIONS TAKEN – SCHNEIDER ELECTRIC – 1-H465VW AC PV Disconnect Switch

REVISE AND RESUBMIT – Submittal is missing product data for the PV Subpanel and PV racking systems. Contractor shall provide product data for PV Subpanels and PV racking systems.

Pacific Power & Systems, Inc.

SUBMITTAL

No. 5Rev 1

4970 Peabody Road
Fairfield, CA 94533

Phone: (707) 437-2300 Ext 111
Fax: (707) 437-2388

PROJECT: F19-5-1147 Piedmont STEAM&Thea
Piedmont High & Millennium Alternative High
Schools Increment 1 STEAM Classroom Building

DATE: 10/29/2019

TITLE: STEAM Bldg. PV Panels and Disconnect

JOB: F19-5-1147

TO: Overaa & Company
200 Parr Blvd,
Richmond, CA 94801
Phone:510-234-0926 Fax:510-237-2435

DIVISION: 26

TRADE: Electrical

ATTN: Mike Handley, Justin Hennis

SECTION: 263100

RE-SUBMITTAL:

<input type="checkbox"/> Shop Drawings <input type="checkbox"/> Letter <input type="checkbox"/> Prints <input type="checkbox"/> Plans	<input type="checkbox"/> Samples <input checked="" type="checkbox"/> Specifications <input checked="" type="checkbox"/> Other: Equipment Submittal <input type="checkbox"/> Other:
--	---

<u>COPIES</u>	<u>SECTION</u>	<u>DATE</u>	<u>DESCRIPTION</u>
1	263100	10/29/19	LG375Q1C-V5 PV Panels
1	262816	10/29/19	400A PV Disconnect

REMARKS:

Please see revision to Submittal 37.0

Important Note: LG is phasing out their 365 W Neon R panel. They notified us to use the LG 375W Neon R solar panel. We wish to place a PO within the next 30 days to secure it for Q1 2020. Otherwise this model and wattage may be unavailable.

Thank you,
Denny L. Kennedy

SUBMITTAL



4980 Allison pkwy
Vacaville, CA 95688
Phone: 707-446-5500
Fax: 707-446-5501

Project: F19-5-1147 Piedmont STEAM
F19-5-1147 Piedmont STEAM & Theater Building

Date: 10/28/2019

Title: STEAM & Theater Solar Panels & mounting hardware

Job: F19-5-1147

TO: Mike Messer
Pacific Power Systems
4970 Peabody Rd
Fairfield, CA 95688

Trade: Solar

Submittal #: 2

RE-Submittal

Summary

Solar Panels & mounting hardware re-submittal: LG is phasing out their 365 W Neon R panel. They notified us to use the LG 375W Neon R solar panel. We would have to place a PO within the next 30 days to secure it for Q1 2020. Otherwise this model and wattage may be unavailable. In regards to the Unirac Sunframe racking, they will be phasing out the sunframe series this month. **All Sunframe orders have to be placed before November 1, 2019.**

ATTACHMENTS:	LG 375 Neon R
	Silverback Racking-STEAM
	Silverback Racking-Theater
	S-5-T clamp spec sheet
	SunFrame Catalog

SUBMITTED BY:	<u>Josh Harris</u>
	Commercial Solar Development
	Citadel Roofng and Solar

LG NeON[®]R

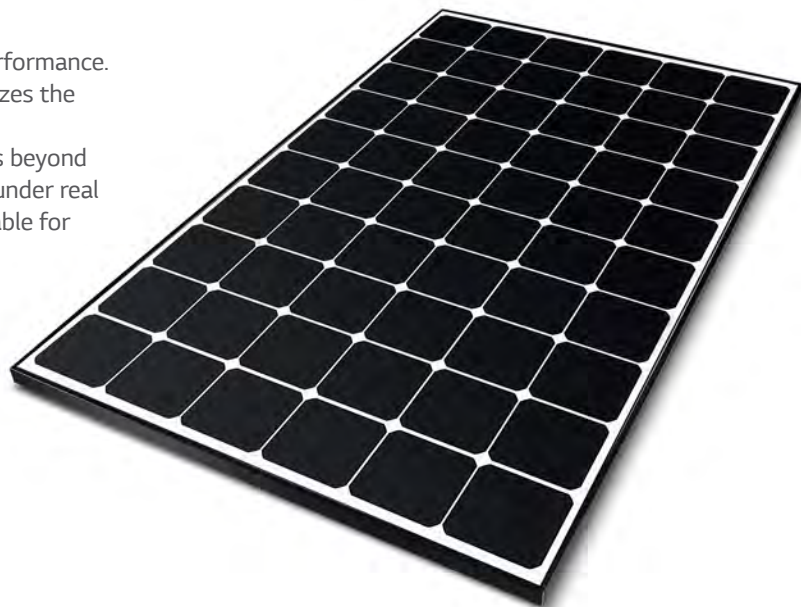
LG375Q1C-V5

60

375W

LG NeON[®]R is powerful solar module that provides world-class performance. A new cell structure that eliminates electrodes on the front maximizes the utilization of light and enhances reliability.

LG NeON[®]R is a result of LG's efforts to increase customer's values beyond efficiency. LG NeON[®]R features enhanced durability, performance under real-world conditions, an enhanced warranty and aesthetic design suitable for roofs.



Feature



Aesthetic Roof

LG NeON[®]R has been designed with aesthetics in mind: the lack of any electrodes on the front creates an improved, modern aesthetic.



Extended Product Warranty

LG has extended the product warranty of the LG NeON[®]R to 25 years which is top level of the industry.



Enhanced Performance Warranty

LG NeON[®]R has an enhanced performance warranty. After 25 years, LG NeON[®]R is guaranteed to perform at minimum 90.8% of initial performance.



More generation per square meter

The LG NeON[®]R has been designed to significantly enhance its output, making it efficient even in limited space.

About LG Electronics

LG Electronics is a global big player, committed to expanding its operations with the solar market. The company first embarked on a solar energy source research program in 1985, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry and materials industries. In 2010, LG Solar successfully released its first MonoX[®] series to the market, which is now available in 32 countries. The NeON[®] (previous MonoX[®] NeON), NeON[®]2, NeON[®]2 BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG Solar's lead, innovation and commitment to the industry.



LG NeON[®]R

LG375Q1C-V5

General Data

Cell Properties(Material / Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Module Dimensions(L x W x H)	1,700mm x 1,016mm x 40mm
Weight	17.5 kg
Glass(Thickness / Material)	2.8mm / Tempered Glass with AR Coating
Backsheet(Color)	White
Frame(Material)	Anodized Aluminium
Junction Box(Protection Degree)	IP68 with 3 Bypass Diodes
Cables(Length)	1,000mm x 2EA
Connector(Type / Maker)	MC4 / MC

Certifications and Warranty

Certifications	IEC 61215-1/-1-1/2:2016, IEC 61730-1/2:2016
	UL 1703
	ISO 9001, ISO 14001, ISO 50001
	OHSAS 18001
Salt Mist Corrosion Test	IEC 61701:2012 Severity 6
Ammonia Corrosion Test	IEC 62716:2013
Module Fire Performance	Type 1
Fire Rating	Class C (UL 790)
Product Warranty	25 Years
Output Warranty of Pmax	Linear Warranty*

* 1) First year : 98%, 2)After 1st year : 0.3% annual degradation 3) 90.8% for 25years

Temperature Characteristics

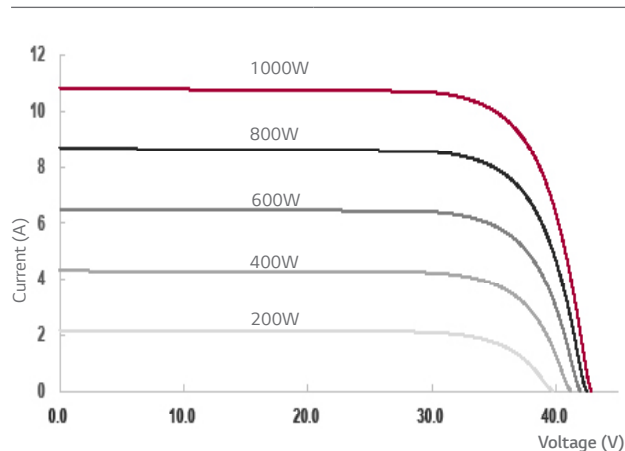
NMOT*	[°C]	44 ± 3
Pmax	[%/°C]	-0.30
Voc	[%/°C]	-0.24
Isc	[%/°C]	0.037

* NMOT(Nominal Module Operating Temperature) : Irradiance 800 W/m², Ambient temperature 20 °C, Wind speed 1 m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

Model	LG375Q1C-V5	
Maximum Power (Pmax)	[W]	282
MPP Voltage (Vmpp)	[V]	37.1
MPP Current (Impp)	[A]	7.61
Open Circuit Voltage (Voc)	[V]	40.3
Short Circuit Current (Isc)	[A]	8.72

I-V Curves



Electrical Properties (STC*)

Model	LG375Q1C-V5	
Maximum Power (Pmax)	[W]	375
MPP Voltage (Vmpp)	[V]	37.2
MPP Current (Impp)	[A]	10.09
Open Circuit Voltage (Voc, ±5%)	[V]	42.8
Short Circuit Current (Isc, ±5%)	[A]	10.83
Module Efficiency	[%]	21.7
Power Tolerance	[%]	0 ~ +3

* STC (Standard Test Condition): Irradiance 1000 W/m², Cell Temperature 25 °C, AM 1.5, Measure Tolerance ± 3%

Operating Conditions

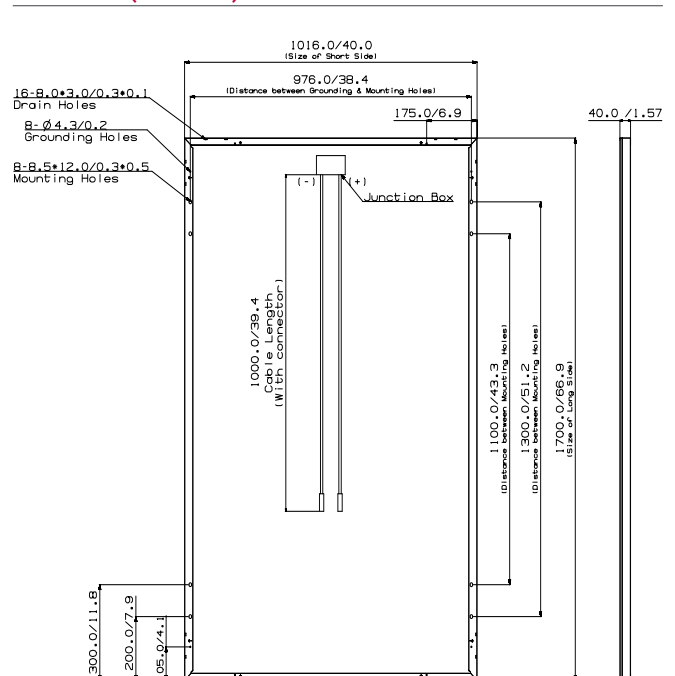
Operating Temperature	[°C]	-40 ~ +90
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load(Front)	[Pa / psf]	5,400 / 113
Mechanical Test Load(Rear)	[Pa / psf]	4,000 / 83.5

* Test Load = Design x Safety Factor(1.5)

Packaging Configuration

Number of Modules Per Pallet	[EA]	25
Number of Modules Per 40ft HQ Container	[EA]	650
Packaging Box Dimensions (L x W x H)	[mm]	1,750 x 1,120 x 1,221
Packaging Box Gross Weight	[kg]	473

Dimensions (mm / inch)



ELECTRICAL FEEDER TABLE (COPPER)

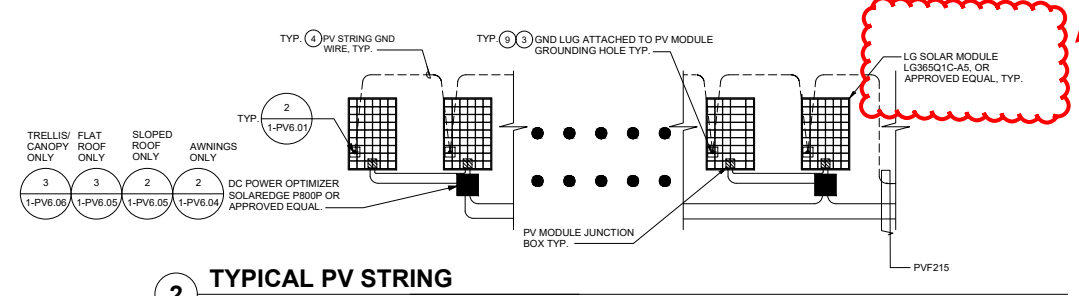
3 WIRE + GROUND					4 WIRE + GROUND				
FEEDER CODE	CONDUIT	PHASE	NEUTRAL	EQUIP. GROUND	FEEDER CODE	CONDUIT	PHASE	NEUTRAL	EQUIP. GROUND
F330	1/34	3P12	-	1P12	F40	1/34	3P12	1P12	-
F330	1/34	3P12	-	1P12	F40	1/34	3P12	1P12	1P12
F340	1/11	3P8	-	1P8	F440	1/11	3P8	1P8	1P10
F350	1/11	3P8	-	1P8	F450	1/11	3P8	1P8	1P8
F370	1/11	3P8	-	1P8	F470	1/11	3P8	1P8	1P8
F380	1/11	3P8	-	1P8	F480	1/11	3P8	1P8	1P8
F3125	1/11	3P12	-	1P12	F4125	1/12	3P12	1P12	1P8
F3150	1/11	3P12	-	1P12	F4150	1/12	3P12	1P12	1P8
F3175	1/12	3P20	-	1P20	F4175	1/12	3P20	1P20	1P8
F3200	1/12	3P20	-	1P20	F4200	1/12	3P20	1P20	1P8
F3225	1/12	3P40	-	1P40	F4225	1/12	3P40	1P40	1P4
F3250	1/12	3P20	-	1P20	F4250	1/13	3P20	1P20	1P4
F3300	1/13	3P30	-	1P30	F4300	1/13	3P30	1P30	1P4
F3350	1/14	3P50	-	1P50	F4350	1/14	3P50	1P50	1P4
F3400	2/2	6P30	-	2P2	F4400	2/2	6P30	2P30	2P2
F3450	2/2	6P40	-	2P1	F4450	2/2	6P40	2P40	2P1
F3500	2/2	6P20	-	2P1	F4500	2/3	6P20	2P20	2P1
F3600	2/3	6P30	-	2P1	F4600	2/3	6P30	2P30	2P1
F3700	2/3	6P50	-	2P10	F4700	2/4	6P50	2P50	2P10
F3800	3/3	6P30	-	3P10	F4800	3/3	6P30	3P30	3P10
F31500	3/4	6P50	-	3P20	F41500	3/4	6P50	3P50	3P20
F31200	4/3	12P30	-	4P30	F41200	4/3	12P30	4P30	4P30
F31500	5/3	15P50	-	4P40	F41500	5/3	15P50	5P50	4P40
F31600	5/3	15P50	-	4P40	F41600	5/3	15P50	5P50	4P40
F32000	5/4	15P50	-	4P50	F42000	5/3	15P50	5P50	4P50

2 WIRE + GROUND

FEEDER CODE	CONDUIT	PHASE	NEUTRAL	EQUIP. GROUND	FEEDER CODE	CONDUIT	PHASE	NEUTRAL	EQUIP. GROUND
F220	1/34	2P12	-	1P12	FG12	1/34	-	-	1P12
F230	1/34	2P10	-	1P10	FG10	1/34	-	-	1P10
F240	1/11	2P8	-	1P8	FG8	1/34	-	-	1P8
F250	1/11	2P4	-	1P8	-	-	-	-	-
F260	1/11	2P2	-	1P8	-	-	-	-	-
F215	1/11	2P1	-	1P8	FG6	1/34	-	-	1P8
F2150	1/11	2P10	-	1P8	-	-	-	-	-
F2175	1/11	2P10	-	1P8	-	-	-	-	-
F2200	1/11	2P10	-	1P8	-	-	-	-	-
F2225	1/12	2P10	-	1P4	FG4	1/11	-	-	1P4
F2250	1/12	2P20	-	1P4	-	-	-	-	-
F2300	1/12	2P30	-	1P4	-	-	-	-	-
F2350	2/1	2P40	-	1P2	FG2	1/11	-	-	1P2
F2400	2/2	4P30	-	2P2	-	-	-	-	-
F2450	2/2	4P40	-	2P1	FG1	1/11	-	-	1P1
F2500	2/2	4P20	-	2P1	-	-	-	-	-
F2600	2/2	4P50	-	2P1	-	-	-	-	-
F2700	2/3	4P30	-	2P10	FG10	1/11	-	-	1P10
F2800	3/2	6P30	-	3P10	-	-	-	-	-
F21000	3/3	6P50	-	3P20	FG20	1/11	-	-	1P20
F21200	4/3	6P30	-	4P30	FG30	1/11	-	-	1P30
F21500	5/2	12P50	-	4P40	FG40	1/11	-	-	1P40
F21600	5/3	15P50	-	4P40	-	-	-	-	-
F22000	5/3	12P50	-	4P50	FG50	1/11	1/4	-	1P20

PV 2 WIRE + GROUND

FEEDER CODE	CONDUIT	PHASE	NEUTRAL	EQUIP. GR	ISOLATED GROUND	NOTES
PVF215	NA	2P10	-	1P10	-	1000 VDC PV WIRE INSULATION
PVF220	1/1	2P10	-	1P10	-	1000 VDC PV WIRE INSULATION, RMC CONDUIT
PVF230	1/1	2P10	-	1P10	-	1000 VDC PV WIRE INSULATION, RMC CONDUIT
PVF235	1/1	2P8	-	1P10	-	1000 VDC PV WIRE INSULATION, RMC CONDUIT
PVF245	1/1	2P10	-	1P10	-	1000 VDC PV WIRE INSULATION, RMC CONDUIT
PVF250	1/1	2P8	-	1P10	-	1000 VDC PV WIRE INSULATION, RMC CONDUIT



2 TYPICAL PV STRING
NOT TO SCALE

LG375Q1C-V5

GENERAL NOTES

- PROVIDE SIGNAGE TO INDICATE THE LOCATION OF THE PV SYSTEM DISCONNECT(S) PER PG&ES RULES, REGULATIONS AND REQUIREMENTS. AT MINIMUM SIGNAGE SHALL BE ENGRAVED ALUMINUM PLATE SIZE TO MEET PG&ES RULES REGULATIONS AND REQUIREMENTS.
- CERTAIN FEEDER AND BRANCH CIRCUIT WIRE SIZES HAVE BEEN OVERSIZED TO COMPENSATE FOR VOLTAGE DROP. SPICE WIRES TO COMPATIBLE SIZES FOR TERMINATION ADJACENT TO EQUIPMENT CONNECTION AS REQUIRED.
- GROUND PV RACKING SYSTEM PER PEC AND PER RACKING SYSTEM MANUFACTURERS SPECIFICATIONS AND INSTALLATION GUIDE.
- THE PV DISTRIBUTION OR SUB PANEL SHALL HAVE SIGNAGE CLEARLY STATING THAT IT IS DEDICATED ONLY FOR SOLAR PV AND THAT NO ADDITIONAL LOADS ARE ALLOWED TO BE CONNECTED TO THEM OTHER THAN SOLAR PV LOADS.
- REFER TO 31-PV6.01 FOR ADDITIONAL SIGNAGE REQUIREMENTS.
- TOTAL VOLTAGE DROP (AC AND DC) SHALL NOT EXCEED 5% FROM THE FURTHEST STRING TO THE POINT OF INTERCONNECTION.
- FOR THE FLAT AND THE SLOPED MANSARD ROOFS, THE PV MODULES, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, AND THE DC OPTIMIZER SYSTEM SHALL BE PROVIDED BY THE SCHOOL DISTRICT AND NOT INCLUDED IN THE CONTRACTOR'S BID. HOWEVER, ALL EXPOSED JOINTS, PULL BOXES, AND CONDUITS ON THE FLAT AND SLOPED MANSARD ROOFS, THE STANCHIONS AND "A" FRAME RACKING SYSTEM INSTALLED ON TOP OF THE STANCHIONS ON THE FLAT ROOF, AND THE RACKING SYSTEM ON THE SLOPED MANSARD METAL ROOFS SHALL BE PROVIDED BY THE CONTRACTOR AND LISTED AS SEPARATE LINE ITEMS IN THEIR BIDS.

FOR THE TRELLIS STRUCTURES AND AWNINGS ATTACHED TO BUILDING FACADE: THE PV MODULES, THE PV INVERTERS, ALL WIRING ASSOCIATED WITH THE PV MODULES AND INVERTERS, AND THE DC OPTIMIZER SYSTEM, SHALL BE PROVIDED BY CONTRACTOR AND LISTED AS SEPARATE LINE ITEMS IN THEIR BIDS.

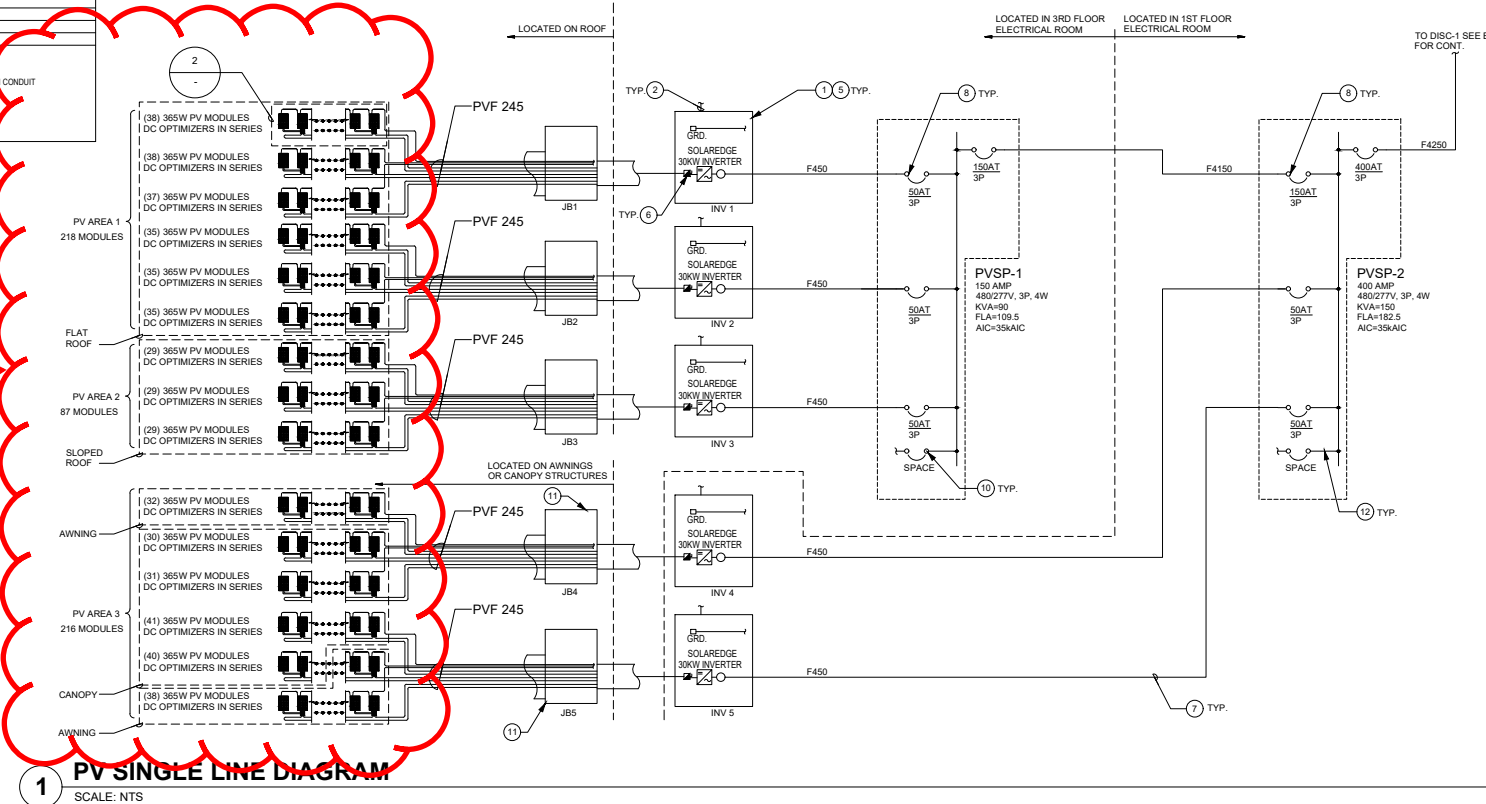
ALL OTHER COMPONENTS FOR THE PV SYSTEM, INCLUDING THE INFRASTRUCTURE ITEMS RELATED TO FLAT MANSARD ROOF, TRELLIS STRUCTURES, AND AWNING PV ARRAYS LISTED ABOVE, SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR THE PROJECT. THE INFRASTRUCTURE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, THE STANCHIONS OR SUPPORT LEGS FOR THE "A" FRAME RACKING SYSTEM ON THE FLAT ROOF, THE PV SUB PANEL AND ITS ASSOCIATED CONDUIT(S) AND FEEDER(S), THE PV UTILITY DISCONNECT SWITCH AND ITS ASSOCIATED CONDUIT(S) AND FEEDER(S), THE PULL BOXES INSTALLED UNDER THE ROOF AND THEIR ASSOCIATED CONDUIT STUB-UPS, THE CONDUITS ROUTED EXPOSED FROM THE PULL BOXES TO THE PV SUB PANEL, THE CONDUITS ROUTED IN THE BUILDING FROM THE AWNINGS TO THE ROOF, THE CONDUITS STUBBED FROM THE ROOF TO THE ELECTRICAL AND IDF ROOMS, AND THE CONDUITS STUBBED FROM THE ELECTRICAL ROOMS AND THE IDF ROOMS.

1 SHEET NOTES

- PROVIDE THE INVERTER SOLAREEDGE STRING LEVEL PV MONITORING SOFTWARE AND ALL PARTS AND PIECES NECESSARY FOR A FULLY FUNCTIONAL SOLAREEDGE MONITORING SYSTEM.
- SOLAREEDGE PV INVERTERS SHALL BE DAISY CHAINED TOGETHER WITH A RS-485 CABLE WHEN MORE THAN ONE INVERTER IS INSTALLED. INSTALL CABLE PER INVERTERS SPECIFICATIONS AND INSTALLATION MANUAL. FROM THE LAST INVERTER IN THE DAISY CHAIN THE CONTRACTOR SHALL ROUTE A CAT 4 DATA CABLE IN 1" CONDUIT, JOIN TO THE BUILDING, COORDINATE WITH MANUFACTURER'S REPRESENTATIVE AND 3RD PARTY COMMISSIONING AGENT PRIOR TO ROUGH-IN.
- ATTACH GROUND LUG TO PV MODULE FRAME GROUND HOLE PER GROUND LUGS AND PV MODULES SPECIFICATIONS AND INSTALLATION MANUALS. VERIFY LOCATION OF PV MODULE FRAME GROUND HOLE PRIOR TO INSTALLATION OF GROUND LUG.
- ATTACH GROUND WIRE TO GROUND LUG PER GROUND LUGS AND MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- GROUND INVERTER PER THE NEC AND THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- DC DISCONNECT INTEGRATED INTO PV INVERTER.
- CONTRACTOR SHALL SIZE FEEDER PER NEC REQUIREMENTS AND SO THAT THE VOLTAGE DROP IS NO GREATER THAN 5%.
- BREAKER(S) AND/OR FUSE(S) SHALL BE SUITABLE FOR BACK FEED.
- CONTRACTOR SHALL NOTE, RATHER THAN USING A GROUND LUG TO GROUND THE PV MODULE IT IS ACCEPTABLE TO THE ELECTRICAL ENGINEER FOR THE CONTRACTOR TO GROUND THE PV RACKING SYSTEM AND MODULES PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE.
- CONTRACTOR SHALL PROVIDE AT LEAST 12 SPACES IN PANEL OR ENOUGH SPACE TO ADD (2) 50A/3P CIRCUIT BREAKERS.
- NOT ALL JUNCTION BOXES REQUIRED FOR PV SYSTEM ARE SHOWN ON PV SINGLE LINE DIAGRAM. SEE PV FLOOR AND FACADE PLANS SHOWING THE AWNING AND CANOPY STRUCTURES FOR EXACT QUANTITIES AND LOCATIONS OF ADDITIONAL JUNCTION BOXES. CONTRACTOR SHALL PROVIDE ENOUGH JOINTS IN ORDER TO PROVIDE A FULL FUNCTIONAL PV SYSTEM.
- CONTRACTOR SHALL PROVIDE AT LEAST 12 SPACES IN PANEL OR ENOUGH SPACE TO ADD (1) 150A/3P AND (2) 50A/3P CIRCUIT BREAKERS.

PV SYSTEM SIZE
521 MODULES
190.165 KW

375 W PV Modules



1 PV SINGLE LINE DIAGRAM
SCALE: NTS

HKIT ARCHITECTS
538 NINTH STREET SUITE 240 • OAKLAND, CA 94607
T 510.625.9800 • F 510.625.9801 • WWW.HKIT.COM

INTEGRAL

427 13th Street
Oakland, CA 94612
510.663.2070 Telephone
E-Mail: info@integralgroup.com
www.integralgroup.com

PTN: 61275-23

FILE 1-H9
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-117533
AC: _____ FL: _____ SS: _____
DATE: _____

INCREMENT 1
PIEDMONT & MILLENNIUM ALTERNATIVE HS STEAM CLASSROOM BUILDING

800 MAGNOLIA AVENUE
PIEDMONT, CA 94611
JOB NO. 70100.01
DRAWN Author
CHECKED Checker
JOB CAPTAIN Approver

ISSUE

DATE	DESCRIPTION
1 10/17/18	ADDENDUM #1
4 2/20/19	ADDENDUM #4
6 3/20/19	DSA BACKCHECK
7 5/09/19	ADDENDUM #7

DRAWING TITLE
PV SINGLE LINE DIAGRAMS

SCALE 1/8" = 1'-0"

1-PV5.01
COPYRIGHT © 2018 HKIT ARCHITECTS

Enclosed Safety Switches Heavy Duty Safety Switches

Cover Viewing Window



Cover Viewing Window

The optional cover viewing window is positioned over the blades to allow visual verification of the ON-OFF status. Available on 30 through 1200 A heavy duty switches.

- UL Listed
- Factory installed only
- Add VW suffix to the catalog number for factory installation
- Not available on Type 4X fiberglass reinforced polyester, Krydon™ or Type 7/9 enclosure



EIK2 Electrical Interlock Kit

Electrical Interlock Kits

Electrical interlocks for heavy duty safety switches 30 through 1200 A are available factory installed or in kit form for field installation. A pivot arm operates from the switch mechanism, breaking the control circuit before the main switch blades break.

- UL Listed, factory or field installed

Table 31: Electrical Interlock Kit ^{1 2}

Switch Ampere Rating	Series ³	Catalog Number ⁴
30	F5-F6	EIK031
		EIK032
60 (600 V)	F5-F6	EIK1
		EIK2
60 (240 V)	F5-F6	EIK031
		EIK032
100–200	F5-F6	EIK1
		EIK2
30–100 Receptacle Switches	F5-F7	EIK1
		EIK2
30–200 Four and Six Pole Switches	F5-F6	EIK1
		EIK2
400–1200	E4-E5	EIK40601
		EIK40602

¹ For series not shown in table refer to the switch wiring diagram.

² Electrical interlocks for Type 4X fiberglass reinforced polyester and Krydon™, see Table 17 on page 22 and Table 19 on page 23 respectively.

³ See pages 57 through 61 for safety switch series.

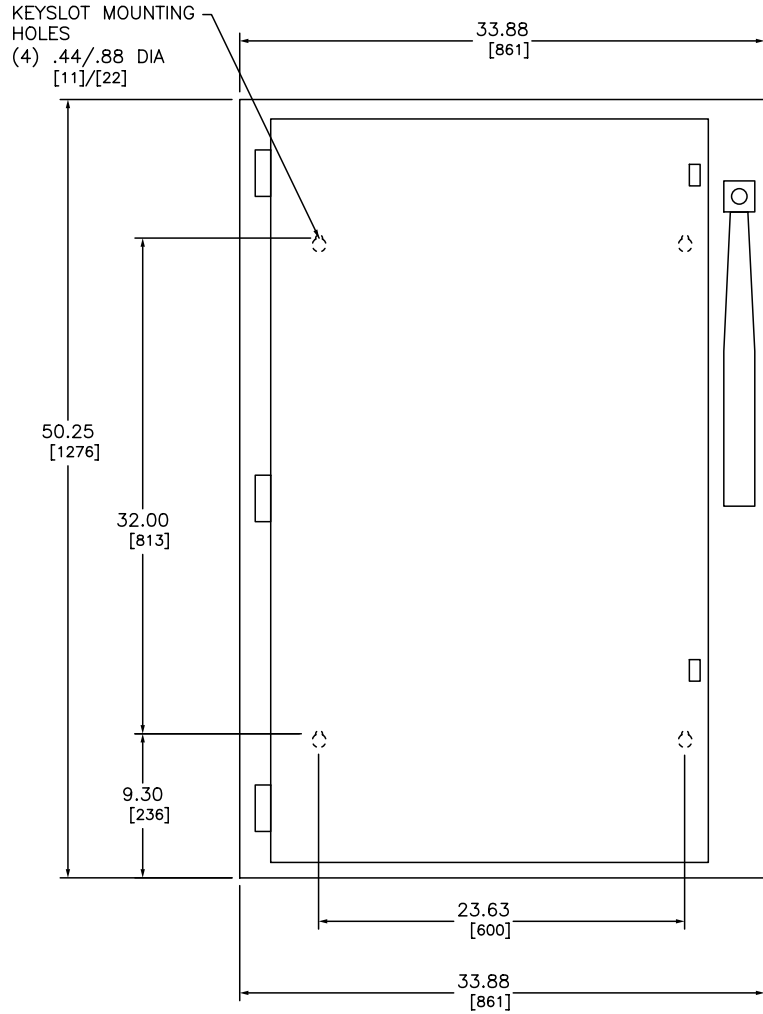
⁴ Electrical interlock kit catalog numbers ending with the number 1, indicates one normally open and one normally closed contact. These kits use a 9007AO1 industrial snap switch. Electrical interlock kit catalog numbers ending with the number 2, indicates two normally open and two normally closed contacts. These kits use a 9007CO3 industrial snap switch.

Seq #	Qty	Product Description
18	1	Designation : PV DISCONNECT

Product Details

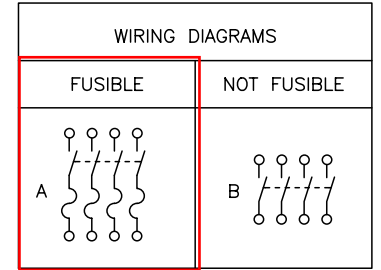
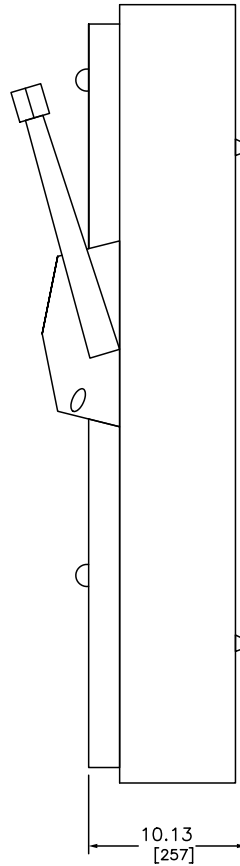
1-H465VW-Type of Switch: Heavy Duty
 Enclosure Type: Type 1
 Interrupting Rating (AIR): 50kA
 Fuse Capability: Class R
 Max System Voltage: 600 VAC
 Switch Current Rating: 400 Amp
 Number of Switching Poles: 4 Pole No Neutral
 Covering View Window: Include
 Are you running in Parallel? No (1 wire)
 Processed by ACE 2.0 - 04172018

Estimated days to ship, excluding transit: 25 working days after customer release to manufacturer. See Conditions of Sale.



NOTES:
 FINISH - GRAY BAKED ENAMEL
 UL LISTED - FILE E-154828
 ALL NEUTRALS - INSULATED GROUNDABLE
 NOT SUITABLE FOR USE AS SERVICE EQUIPMENT
 SHORT CIRCUIT CURRENT RATINGS:
 10,000 AMPERES WHEN USED WITH OR PROTECTED BY CLASS H OR K FUSES.
 200,000 AMPERES WHEN USED WITH OR PROTECTED BY CLASS R FUSES
 OR CLASS J FUSES.

NEMA TYPE 1
 NO KNOCKOUTS



TERMINAL LUGS DATA

AMPERES	MAX. WIRE	MIN. WIRE	TYPE
400	(1) 750 KCMIL OR (2) 300 KCMIL	(1) #1/0 AWG OR (2) #1/0 AWG	AL OR CU

DUAL DIMENSIONS: INCHES
 MILLIMETERS

CATALOG NUMBER	VOLTAGE RATINGS	WIRING DIAG.	HORSEPOWER RATINGS													
			240VAC		480VAC		600VAC		250 VDC	600 VDC						
			STD	MAX	STD	MAX	STD	MAX	STD	STD						
H465	600VAC, 600VDC	A	-	50	-	125	-	100	-	250	-	125	-	350	50	50
HU465	600VAC, 600VDC	B	-	-	-	125	-	-	-	250	-	-	-	350	50	50

HEAVY DUTY SAFETY SWITCHES
 VISIBLE BLADE TYPE
 400 AMPERE
 ENCLOSURE - NEMA TYPE 1 GENERAL PURPOSE



DWG# 1924
 NO.



200 Parr Boulevard, Richmond, CA 94801
 p (510) 234-0926 f (510) 237-2435 www.overaa.com

SUBMITTAL: 37.0

Job No: 3453- Piedmont High School STEAM & Theater

Owner Ref No.:

Originated by: Pacific Power & Systems, Inc.

Date: 7/10/2019

To: Pete Palmer
 Piedmont Unified School District

 Piedmont, CA 94611

From: Justin Hennis
 C. Overaa & Co.
 200 Parr Blvd.
 Richmond, CA 94801

Phone: 510.234.0926

Fax: 510.237.2435

Email: justinh@overaa.com

Email: Ppalmer@piedmont.k12.ca.us

Subject: PV Panels & Inverter
 Submittal No. 37.0

Date Due: **07/25/2019**

The items listed below are being submitted for approval. In order to maintain schedule, please review and return this submittal on or before the due date indicated above.

Register No. /Revision	Copies Sent	Copies to be Returned	Spec Section	Spec Sub Section	Description
734.0			263100	1.5C	Photovoltaic System Product Data

Notes:

Cc:

- No Exceptions Taken
- Make Corrections Noted
- Revise and Resubmit
- Rejected. See Remarks

See Electrical engineer comments on following pages.

Review is only for general conformance with the design concept of the project and general compliance with the information included in the Contract Documents. Any action shown is subject to the requirements of the Contract Documents. Contractor is responsible for correlating and confirming dimensions at the job site; choice of fabrication processes and techniques of construction; coordination of his work with that of other trades; and performing the work in a safe and satisfactory manner.

HKIT Architects

DATE: 7/16/19 BY: F. Hunziker

Pacific Power & Systems, Inc.

SUBMITTAL

No. 5

4970 Peabody Road
Fairfield, CA 94533

Phone: (707) 437-2300
Fax: (707) 437-2388

PROJECT: F19-5-1147 Piedmont STEAM&Thea
F19-5-1147 Piedmont STEAM & Theater Building

DATE: 07/09/2019

TITLE: STEAM Bldg. PV Panels and Inverters

JOB: F19-5-1147

TO: Overaa & Company
200 Parr Blvd,
Richmond, CA 94801
Phone:510-234-0926 Fax:510-237-2435

DIVISION: 26

TRADE: Electrical

ATTN: Mike Handley

SECTION: 263100

RE-SUBMITTAL:

<input type="checkbox"/> Shop Drawings <input type="checkbox"/> Letter <input type="checkbox"/> Prints <input type="checkbox"/> Plans	<input type="checkbox"/> Samples <input type="checkbox"/> Specifications <input checked="" type="checkbox"/> Other: Equipment Submittal <input type="checkbox"/> Other:
--	--

<u>COPIES</u>	<u>SECTION</u>	<u>DATE</u>	<u>DESCRIPTION</u>
1		07/09/19	LG365Q1C-V5 PV Panels
1		07/09/19	Solar Edge SE30KUS Inverter
1		07/09/19	Solar Edge P800p Power Optimizer

REMARKS:

Signed: Mike Messer
Mike Messer

Date: 07/09/2019

Submittal Review



427 13th Street
Oakland CA 94612
Tel 510 663-2070
Fax 510 663-2080
www.integralgroup.com

Project Title: **PUSD STEAM**
Submittal No.: **37.0**
Submittal Subject: **PV Panels & Inverter**
Date submittal received: **2019-07-10**
Reviewed by: **J. Choi/S. Chapes** Date: **2019-07-16**

SUBMITTAL

RETURNED HEREWITH, HAS BEEN REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS TO THE EXTENT SHOWN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, FIELD CONDITIONS, PERFORMANCE AND COORDINATING WITH OTHER TRADES AND IS NOT RELIEVED FROM RESPONSIBILITY FOR UNAUTHORIZED DEVIATIONS FROM CONTRACT DOCUMENTS.

REVIEW STATUS:

- NO EXCEPTIONS TAKEN NOT REVIEWED
 MAKE CORRECTIONS NOTED
 REVISE AND RESUBMIT
 REJECTED

COMMENTS:

General Comments:

1. Contractor shall install all items in submittal per the Construction Documents, Manufacturer's Specifications and Installation Guide, and the NEC, Unless Otherwise Noted.
2. Contractor shall provide and install all parts and pieces necessary to provide fully functional electrical systems.
3. For any deviation in the design from the Construction Documents, the Contractor shall assume the responsibility of ensuring that the Electrical System meets requirements of the Construction Documents and the owner. The Contractor shall also assume the responsibility of paying for additional costs incurred by deviations from the design in the Construction Documents.
4. Electrical Engineer only reviewed Electrical components in the submittal. Contractor shall refer to other disciplines for additional comments.
5. Device and equipment finishes and colors not reviewed. Architect shall review and select all finishes and colors for all devices and equipment.

NO EXCEPTIONS TAKEN: LG365Q1C-V5 PV Panels

NO EXCEPTIONS TAKEN: SolarEdge SE30KUS Inverter

NO EXCEPTIONS TAKEN: SolarEdge P800p Power Optimizer

REVISE AND RESUBMIT: Contractor shall provide product data for PV Sub Panel, AC disconnect, and mounting hardware.