BID DOCUMENTS COVER SHEET

CONTRACT DOCUMENTS

FOR

L-638 GYMNASIUM ACOUSTIC TREATMENT AND AUDIO-VISUAL SYSTEM

AT

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Consist of the following:

Volume 1

Architect:
IBI GROUP
160 West Santa Clara Street, Suite 800
San Jose, CA 95113 USA
Tel (408) 924-0811

June 29, 2020

SECTION 00010

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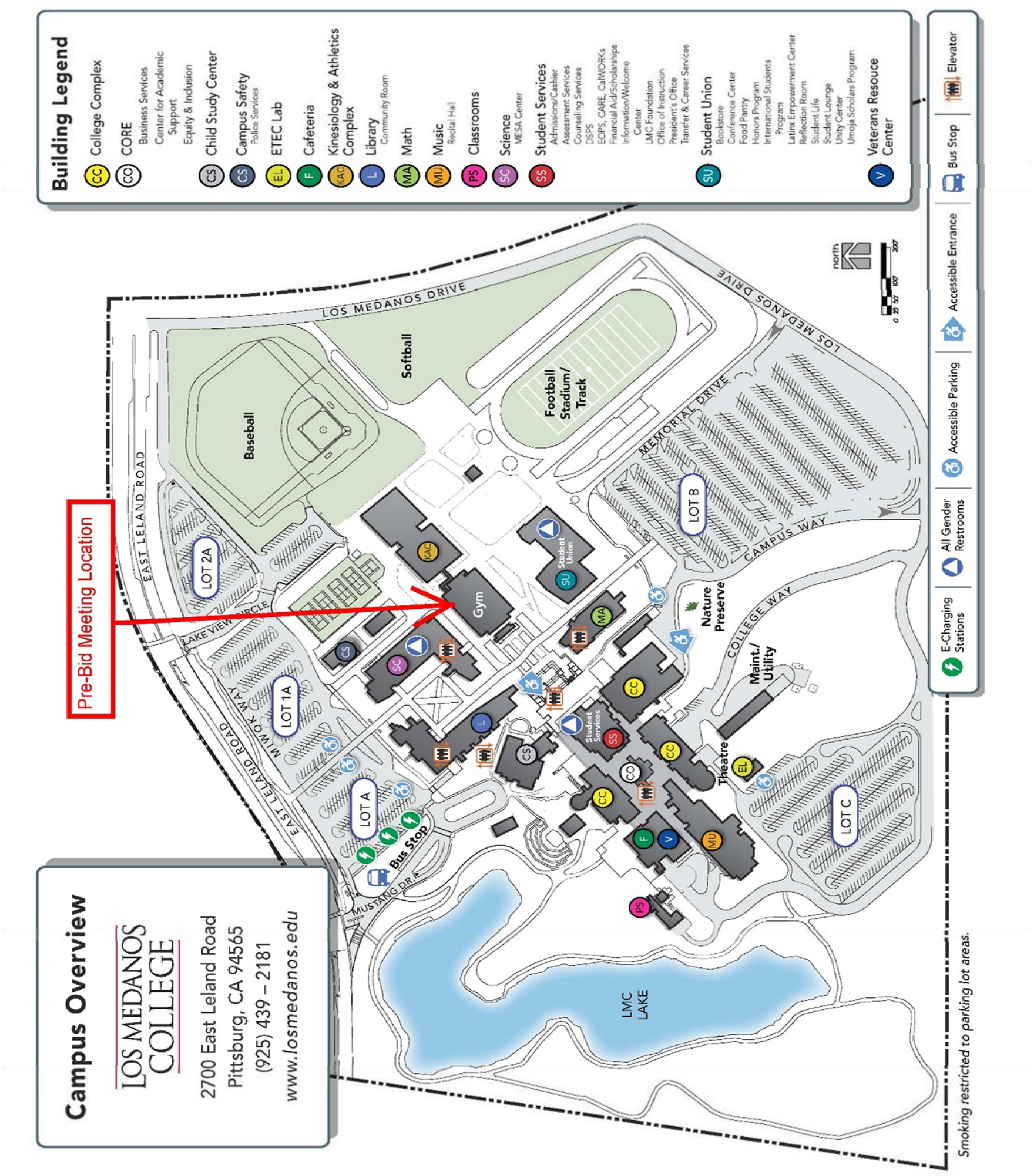

SECTION 00100
NOTICE INVITING BIDS
(INFORMAL BIDS)

L-638 GYMNASIUM ACOUSTIC TREATMENT AND AUDIO-VISUAL SYSTEM

LOS MEDANOS COLLEGE
2700 E Leland Rd.
Pittsburg, CA 94565

SCOPE OF WORK: The scope of work includes the installation of acoustical panels on the walls and to the beams at the ceiling; lowering existing light fixtures and other equipment as necessary to install the acoustical panels and audio-visual equipment; installing new audio-visual equipment and speakers.

IMPORTANT INFORMATION:

- **Pre-Bid Meeting & Job Walk**: Non-Mandatory — **July 7, 2020, 2:00 PM**
  Location: (see Campus Map) — Los Medanos College Gymnasium, 2700 E Leland Rd., Pittsburg, CA 94565

  PLEASE NOTE: A Site Visit will be held immediately following the Pre-Bid meeting. Please sign in on the attendance Log. Please wear face masks, as required by CCC Health Services.

- **Cost Estimate (Range):** $110,000 to $120,000

- **CA License Required:** B-General Building Contractor

- **Last Date / Time for Bidder's Requests for Information:** **July 14, 2020, prior to 5:00 PM**

- **BID OPENING DATE/TIME:** **July 28, 2020 @ 2:00 PM**

This project is a public works project and is subject to prevailing wage rate laws. A copy of the prevailing rates of wages is on file with the Contracts & Purchasing Office of the Contra Costa Community College District. Said rates of wages will be included in the contract for the work.

Attention is directed to Section 4100 through 4113 of the Public Contract Code concerning Subcontractors, with emphasis on Section 4104, known as the "Subletting and Subcontracting Fair Practices Act, effective July 1, 2014.

Attention is directed to Labor Code Section 1725.5 regarding Department of Industrial Relations (DIR) contractor registration process including registration criteria and implementation of DIR registration requirements. Labor Code Section 1771.7 establishes contractor's obligation to submit Certified Pay Roll (CPR) to the Department of Labor and Standards Enforcement (DLSE) and public works monitoring and

enforcement. Labor Code Section 1773.3 requires the District to submit a PWC-100 to DIR for all public works contract awarded effective January 1, 2015.

~~Site Visit Certification (Section 00450) shall be authorized by the representative of the District and shall be submitted with the bid. Failure to submit all of the above may cause your bid to be non-responsive and disqualified for contract award.~~

For information directly from the District, you may log in to the District Website: http://www.4cd.edu/webapps/PurchasingViewBids/default.aspx. Project documents available include, but are not limited to, plans, specifications, addenda, bidders' lists, bid results, etc., and can be viewed on this District webpage.

The District does not provide hardcopies of bid documents or reimburse cost of printing, delivery, or any expenses related to the bidding process.

All questions related to this project must be submitted electronically, ***no later than*** **July 14, 2020**, to:

Ben M. Cayabyab, Contracts Manager
Contra Costa Community College District
Email: bcayabyab@4cd.edu

Each bid shall be made on the Bid Proposal Form, which is included in the Bid Documents. The successful bidder will be required to furnish a payment bond in an amount equal to one hundred percent (100%) of the contract price and a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price, said bonds to be secured from a surety company acceptable to the Contra Costa Community College District and authorized to execute such surety in the State of California.

Certificates of Liability Insurance with proper endorsements shall be required for the successful bidder.

The contract time is **145 Calendar Days** between the Notice to Proceed date and the Contract Substantial Completion date. Liquidated Damages shall be set for **Five Hundred Dollars ($500.00)** for each Calendar Day the Work is delayed beyond the contract Substantial Completion date; and **One Hundred Dollars** (**$100.00**) for each Calendar Day Remaining Work is delayed beyond the Contract Final Completion Date. The Contra Costa Community College District reserves the right to reject any and all bids and/or waive any informality or irregularity in any bid received. No bidder may withdraw their Bid for a period of fifteen (15) Calendar Days after the date set for opening thereof.

END OF SECTION

SECTION 00210

INFORMATION AVAILABLE TO BIDDERS

PART 1 - REPORT AND INFORMATION

1.1 Existence of reports, record drawings, and utility surveys**:** Contra Costa Community College District, its consultants, and prior contractors may have collected documents providing a general description of the site and conditions of the work. These documents may consist of geotechnical reports for and around the site, record drawings, utility drawings, and information regarding underground utilities. These reports, documents and other information are not part of the Contract Documents and do not show new work to be constructed, rather, they show existing conditions that Contractor may have to address as part of its construction planning.

1.2 Available Documentation: The following existing documentation has been made available for downloading via the District's web site: **L-638 Gym Renovation Project Record Drawings.**

1.3 Contractor shall acknowledge and accept that the documents are not a part of the Contract Documents and are made available to bidders for reference only. The District and its representatives are not responsible for any and all discrepancies between the documents and the existing and actual as-built conditions, and do not guarantee the accuracy of the documents.

1.4 The District and Design Consultants assume no responsibility for the completeness or accuracy of the documents or the records compiled there from and the interpretations made from the documents. There is no express or implied guarantee that the conditions indicated in the documents are representative of those existing throughout the building and/or site Conditions differing substantially from those indicated may be encountered.

END OF SECTION 00210

SECTION 00300
BID PROPOSAL FORM
(INFORMAL BIDS)

Bidder's Name

L-638 GYMNASIUM ACOUSTIC TREATMENT AND AUDIO-VISUAL SYSTEM

LOS MEDANOS COLLEGE
2700 E Leland Rd.
Pittsburg, CA 94565

BID DATE: July 28, 2020, before 2:00 PM

==========

INSTRUCTIONS TO BIDDERS:

- *Submit your BID Proposal via mail/overnight mail or deliver, in person, to:*
  Contra Costa Community College District
  500 Court Street
  Martinez, CA 94553
  Attn: Ben M. Cayabyab, Contracts Manager
- *Don't forget to include a Bid Bond for 10% of the Bid amount; (copy attached to Bid Proposal is accepted, original by mail to follow); ~~and signed Certification of Site Visit~~;*
- *Bid results shall be sent to you via email message and posted at the District Website;*

For clarification, please email: ***Ben M. Cayabyab, Contracts Manager,*** **bcayabyab@4cd.edu**

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Attention is directed to Labor Code Section 1725.5 regarding Department of Industrial Relations (DIR) contractor registration process; registration criteria and implementation of DIR registration requirements. Labor Code Section 1771.7 establishes contractor's obligation to submit Certified Payroll (CPR) to the Department of Labor and Standards Enforcement (DLSE) and public works monitoring and enforcement. Labor Code Section 1773.3 requires the District to submit a PWC-100 to DIR for all public works contract awarded effective January 1, 2015.

1. INTRODUCTION
   A. The Bidder proposes to perform the Work for the Contract Sum and within the proposed time, based upon an examination of the Job Site and Specifications.
   B. The Bidder certifies this proposal is submitted in good faith.
   ~~C. The signed copy of the Certification of Visit to the Site shall be attached to the Bid Proposal Form.~~
   D. The Bidder shall attach a Bid Security for ten percent (10%) of the Bid Amount in the form of Bid Bond, or Certified Check payable to the District.
   E. The District shall award the contract to the lowest responsive and responsible Bidder. The evaluation of the low bid shall be based on the total of Base Bid.

   Please Note: PCC 20651 (b); In the event, the successful bidder fails to provide the required Payment and Performance bonds, the Bid Security shall be forfeited in favor of the District and Contractor shall not be entitled for contract award.

2. BID AMOUNT

For labor, materials, insurances, bonds, fixtures, equipment, tools, transportation, services, sales taxes and other costs necessary to complete the public project in accordance with Contract Drawings and Specifications, for a stipulated Contract Sum in the amount of:

Quote for the BASE BID Scope of Work:

_____ **$** _____

(Write amount of Base Bid)

3. ADDENDUM (if applicable): #1 Received Date: _____; #2 Received Date: _____;

4. SUBCONTRACTORS LIST (If Any)

Attention is directed to Section 4100 through 4113 of the Public Contract Code concerning Subcontractors, with emphasis on Section 4104, known as the "Subletting and Subcontracting Fair Practices Act, effective July 1, 2014.

	Type of Work	Subcontractor's Name	Address/Phone	Business License # & DIR Registration #
(1)				
(2)				
(3)				

4. COMPLETION TIME

A. For establishing the Date of Substantial Completion, the contract time shall be ***145 calendar days*** after date of Notice to Proceed.
B. Final Completion shall be **30 calendar days** after the date of Substantial Completion.
C. Prior to the Notice to Proceed issued by the District, the Contractor shall provide a CPM construction schedule, prepared in Microsoft Project format, utilizing the entire time allowed to complete the project. Schedule shall be subject to District's approval.

5. ACCEPTANCE AND AWARD

The District reserves the right to waive minor irregularities or reject all bids; or negotiate changes before or after execution of the Contract. This Bid shall remain open and shall not be withdrawn for a period of 10 days after Bid Opening date.

If written notice of acceptance of this Bid is mailed or delivered to the Bidder within 10 days after the date set for the receipt of this Bid, or other time before it is withdrawn, the Bidder shall execute and deliver to

the District a Contract prepared by District with the required Surety Bonds and Certificates of Insurance, within 10 days after personal delivery or deposit in the mail of the notification of acceptance.

Notice of acceptance or request for additional information may be addressed to the Bidder at the address provided.

The undersigned hereby certifies under penalty of perjury under the laws of the State of California that all the information submitted by the bidder in connection with this proposal and all the representations herein made are true and correct.

_____ CSLB License No.: _____ Exp: _____
Firm Name

_____ DIR Registration No.: _____
Address

_____ Phone: _____

_____ Email: _____

_____
Authorized Signature Print Name Date

SECTION 00500

PAYMENT BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Contra Costa Community College District (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

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

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

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

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

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or

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

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

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____

Attorney-in-Fact

IMPORTANT: THIS IS A REQUIRED FORM.

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

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____ before me, _____,
(insert name and title of the officer)
a Notary Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

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

WITNESS my hand and official seal.

_____ (SEAL)
Notary Public in and for said State

Commission expires:_____

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

CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, Contra Costa Community College District (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

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

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

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

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

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

changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Obligee as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at Obligee's sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the "balance of the Contract price" (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable to Principal by the Obligee under the Contract and any modifications thereto, less the amount previously paid by the Obligee to the Principal, less any withholdings by the Obligee allowed under the Contract.

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

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

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

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

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

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

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____

Attorney-in-Fact

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

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

IMPORTANT: THIS IS A REQUIRED FORM.

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

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____ before me, _____
(insert name and title of the officer)

On _____, before me, _____, a Notary

Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

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

WITNESS my hand and official seal.

_____ (SEAL)
Notary Public in and for said State

Commission expires:_____

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

SECTION 00510

NOTICE OF AWARD

DATE: _____

TO: _____

ADDRESS: _____

PROJECT: _____

The Contract Sum of your contract is _____ Dollars, ($_____).

You must comply with the following conditions within **ten (10)** calendar days of the date of this Notice of Award, that is, by _____.

1. You must deliver to the District two fully executed counterparts of Section 00600, "Construction Agreement."

2. You must deliver to the District the "Contract Performance Bond," and "Payment Bond," executed by you and your surety, which are included in Section 00500.

3. You must deliver to the District the Contractor's CPM Schedule, prepared in Microsoft Project format, including both PDF and electronic file for the District's review.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited. Within **ten (10)** calendar days after you comply with these conditions, the District will return to you one fully signed counterpart of the Construction Agreement.

Contra Costa Community College District

By: _____

Title: _____

END OF DOCUMENT

CONTRACT NO. _____
(Construction Agreement)

==========

1. SPECIAL TERMS. These special terms are incorporated below by reference**.**

(§1.1) Parties: (Public Agency) **CONTRA COSTA COMMUNITY COLLEGE DISTRICT**
500 Court St, Martinez, CA 94553

(Contractor) _____
Address: _____
_____

(§1.2) Effective Date: See ***Section (§1.4) Completion Time***, below

(§1.3) The Work: **L-638 GYM ACOUSTIC TREATMENT and AUDIO-VISUAL SYSTEM**

(§1.4) Completion Time: **145 Calendar Days** from the Notice to Proceed to Substantial Completion, and **30 Calendar Days** from Substantial Completion to Final Completion (Remaining Work).

(§1.5.1) Liquidated Damages, Substantial Completion: **$500** per Calendar Day beyond the Contract Substantial Completion Date.

(§1.5.2) Liquidated Damages, Remaining Work/Final Completion: **$100**/ per Calendar Day Remaining Work is delayed beyond the Contract Final Completion Date.

(§1.6) Public Agency's Agent: **CONTRA COSTA COMMUNITY COLLEGE DISTRICT (The District)**

(§1.7) Contract Price: _____

2. SCOPE OF WORK

The scope of work includes the installation of acoustical panels on the walls and to the beams at the ceiling; lowering existing light fixtures and other equipment as necessary to install the acoustical panels and audio-visual equipment; installing new audio-visual equipment and speakers. For the complete scope of work, see SECTION 00010 Table of Contents, for the list of the Contract Drawings and Specifications.

3. WORK CONTRACT, CHANGES

(a) By their signatures below, effective on the above date, these parties promise and agree as set forth in this Agreement, incorporating by these references labor and materials contained in Section 2, Scope of Work.

(b) Contractor shall, at Contractor's own cost and expense, and in a workmanlike manner, fully and faithfully perform and complete the work; and will furnish all materials, labor, services, equipment, and transportation necessary, convenient and proper in order fairly to perform the requirements of this contract, all strictly in accordance with the Scope of Work in Section 2 above, and the Public Agency's plans, drawings and specifications, and with Supplementary General Conditions, if any.

(c) The work can be changed only with Public Agency's prior written order specifying such change and its cost agreed to by the parties; and the Public Agency shall never have to pay more than specified in Section 7 without such an order.

4. TIME: NOTICE TO PROCEED

Contractor shall start this work as directed in Section 1.4 Completion Time above or as directed by the Notice to Proceed, if any, and shall complete it as specified in Section 1.4, Completion Time.

5. LIQUIDATED DAMAGES

If the Contractor fails to complete this contract and this work within the time fixed therefore, allowance being made for contingencies as provided herein, he becomes liable to the Public Agency for all its loss and damage there from; and because, from the nature of the case, it is and will be impracticable and extremely difficult to ascertain and fix the Public Agency's actual damage from any delay in performance hereof, it is agreed that Contractor will pay as liquidated damages to the Public Agency the reasonable sum specified in Section 1, the result of the parties' reasonable endeavor to estimate fair average compensation therefore, for each calendar day's delay in finishing said work; and if the same be not paid, Public Agency may, in addition to its other remedies, deduct the same from any money due or to become due Contractor under this contract. If the Public Agency for any cause authorizes or contributes to a delay, suspension of work or extension of time, its duration shall be added to the time allowed for completion, but it shall not be deemed a waiver nor be used to defeat any right of the Agency to damages for non-completion or delay hereunder. Pursuant to Government Code Section 4215, the Contractor shall not be assessed liquidated damages for delay in completion of the work, when such delay was caused by the failure of the Public Agency or the owner of a utility to provide for removal or relocation of existing utility facilities.

6. INTEGRATED DOCUMENTS

The plans, drawings and specifications or special provisions of the Public Agency's call for bids, and Contractor's accepted bid for this work are hereby incorporated into this contract; and they are intended to cooperate, so that anything exhibited in the plans or drawings and not mentioned in the specifications or special provisions, or vice versa, is to be executed as if exhibited, mentioned and set forth in both, to the true intent and meaning thereof when taken all together; and differences of opinion concerning these shall be finally determined by the Public Agency.

7. PAYMENT

(a) For strict and literal fulfillment of these promises and conditions, and full compensation for all this work, the Public Agency shall pay the Contractor the sum specified in Section 1, except that in unit price contracts the payment shall be for finished quantities at unit bid prices.

(b) On or about the first day of each calendar month, the Contractor shall submit to the Public Agency a verified application for payment, supported by a statement showing all materials actually installed during the preceding month, the labor expended thereon, and the cost thereof; whereupon, after checking, the Public Agency shall issue to Contractor a certificate for the amount determined to be due, minus five (5%) percent thereof, but not until defective work and materials have been removed, replaced and made good. Payment of the approved amount will be made to the Contractor within 30 calendar days from the date the Public Agency approves in writing the Contractor’s application for payment.

8. PAYMENTS WITHHELD

(a) The Public Agency or its agent may withhold any payment, or because of later discovered evidence nullify all or any certificate for payment, to such extent and period of time only as may be necessary to protect the Public Agency from loss because of:

(1) Defective work not remedied, or work not completed, or
(2) Claims filed or reasonable evidence indicating probable filing, or
(3) Failure to properly pay subcontractors or for material or labor, or
(4) Reasonable doubt that the work can be completed for the balance then unpaid, or
(5) Damage to another contractor, or
(6) Damage to the Public Agency, other than damage due to delays.

(b) The Public Agency shall use reasonable diligence to discover and report to the Contractor, as the work progresses, the materials and labor which are not satisfactory to it, so as to avoid unnecessary trouble or cost to the Contractor in making good any defective work or parts.

(c) Thirty-five (35) calendar days after Public Agency files its notice of completion of the entire work, it shall issue a certificate to the Contractor and pay the balance of the contract price after deducting all amounts withheld under this contract, provided the Contractor shows that all claims for labor and materials have been paid, no claims have been presented to the Public Agency based on acts or omissions of the Contractor, and no liens or withhold notices have been filed against the work or site, and provided there are not reasonable indications of defective or missing work or of late-recorded notices of liens or claims against Contractor.

9. INSURANCE

Before the commencement of the Work, the Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in California as admitted carriers, or a District approved equal, with a financial rating of at least A status as rated in the most recent edition of Best's Insurance Reports or as amended by the Supplementary General Conditions, such insurance as will protect the Public Agency from claims set forth below, which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations are by the Contractor, by a Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

(a) Claims for damages because of bodily injury, sickness, disease, or death of any person District would require indemnification and coverage for employee claim;
(b) Claims for damages insured by usual personal injury liability coverage, which are sustained by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or by another person;
(c) Claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents;
(d) Claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work;
(e) Claims involving contractual liability applicable to the Contractor's obligations under the Contract Documents, including liability assumed by and the indemnity and defense obligations of the Contractor and the Subcontractors; and
(f) Claims involving Completed Operations, Independent Contractors' coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. (XCU)
(g) Claims involving sudden or accidental discharge of contaminants or pollutants.

Additional Insured Endorsement Requirement: The Contractor shall name, on any policy of insurance, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured. Subcontractors shall name the Contractor, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured. The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded

the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the Additional Insured, have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor must be designated in the policy as primary to any insurance obtained by the Public Agency. The amount of the insurer's liability shall not be reduced by the existence of such other insurance.

Specific Insurance Requirement: Contractor shall take out and maintain and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain:

(a) Comprehensive General Liability Insurance with an aggregate of not less than $2,000,000.00; Per occurrence, $1,000,000.00
(b) Automotive (any auto) where operated in amounts $1,000,000.00
(c) Workers' Compensation Insurance: $1,000,000.00; Contractor is aware of and complies with Labor Code Section 3700 and the Worker's Compensation Law.

10. BONDS

(Not Required for Public Projects below $25,000; Civil Code 9550; Public Contract Code 7103.)

Bond Requirements: Prior to commencing any portion of the Work, the Contractor shall furnish separate payment and performance bonds for its portion of the Work which shall cover 100% faithful performance of and payment of all obligations arising under the Contract Documents and/or guaranteeing the payment in full of all claims for labor performed and materials supplied for the Work. All bonds shall be provided by a corporate surety authorized and admitted to transact business in California as sureties.

To the extent, if any, that the Contract Price is increased in accordance with the Contract Documents, the Contractor shall, upon request of the Public Agency, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the Public Agency. To the extent available, the bonds shall further provide that no change or alteration of the Contract Documents (including, without limitation, an increase in the Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor will release the surety. If the Contractor fails to furnish the required bonds, the Public Agency may terminate the Contract for cause.
On signing this contract, Contractor shall deliver to Public Agency for approval good and sufficient bonds with sureties, in amount(s), specified in the specifications or special provisions, guaranteeing faithful performance of this contract and payment for all labor and materials hereunder.

11. FAILURE TO PERFORM

If the Contractor at any time refuses or neglects, without fault of the Public Agency or its agent(s), to supply sufficient materials or workers to complete this agreement and work as provided herein, for a period of ten days or more after written notice thereof by the Public Agency, the Public Agency may furnish same and deduct the reasonable expenses thereof from the contract price.

12. LAWS APPLY: General

Both parties recognize the applicability of various federal, state and local laws and regulations, especially Chapter 1 of Part 7 of the California Labor Code (beginning with Section 1720, and including Sections 1735, 1777.5, 1777.6, forbidding discrimination) and intend that this agreement complies therewith. The parties specifically stipulate that the relevant penalties and forfeitures provided in the Labor Code, especially in Sections 1775, 17776, and 1813, concerning prevailing wages and hours, shall apply to this agreement as though fully stipulated herein.

13. REGISTRATION WITH DEPARTMENT OF INDUSTRIAL RELATIONS

Contractor shall be registered pursuant to Section 1725.5 of the California Labor Code 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 any public work contract that is subject to the requirements of Section 1725.5. For the purposes of this requirement, "contractor" includes a subcontractor as defined by Labor Code Section 1722.1.

The requirement to list only registered contractors and subcontractors on bids becomes effective on March 1, 2015. The requirement to only use registered contractors and subcontractors on public works projects applies to all projects awarded on or after April 1, 2015.

14. SUBCONTRACTORS

Public Contract Code Sections 4100-4113 are incorporated herein.

15. WAGE RATES

(a) Pursuant to Labor Code Section 1773, the Director of the Department of Industrial Relations has ascertained the general prevailing rates of wages per diem, and for holiday and overtime work, in the locality in which this work is to be performed, for each craft, specified in the call for bids for this work and are on file with the Public Agency, and are hereby incorporated herein.

(b) This schedule of wages is based on a working day of eight (8) hours unless otherwise specified; and the daily rate is the hourly rate multiplied by the number of hours constituting the working day. When less than that number of hours are worked, the daily wage rage is proportionately reduced, but the hourly rate remains as stated.

(c) The Contractor, and all subcontractors, must pay at least these rates to all persons on this work, including all travel, subsistence, and fringe benefit payments provided for by applicable collective bargaining agreements. All skilled labor not listed above must be paid at least the wage scale established by collective bargaining agreement for such labor in the locality where such work is being performed. If it becomes necessary for the Contractor or any subcontractor to employ any person in a craft, classification or type of work (except executive, supervisory, administrative, clerical or other non-manual workers as such) for which no minimum wage rate is specified, the contractor shall immediately notify the Public Agency which shall promptly determine the prevailing wage rate therefore and furnish the Contractor with the minimum rate based thereon, which shall apply from the time of the initial employment of the person affected and during the continuance of such employment.

16. HOURS OF LABOR

Eight hours of labor in one calendar day constitutes a legal day's work, and no worker employed at any time on this work by the Contractor or by any subcontractor shall be required or permitted to work longer thereon except as provided in Labor Code Sections 1810-1815.

17. APPRENTICES

Properly indentured apprentices may be employed on this work in accordance with Labor Code Sections 1777.5 and 1777.6, forbidding discrimination.

18. SUBMISSION OF CERTIFIED PAYROLL RECORDS

Contractors and subcontractors on all public works projects will be required to submit certified payroll records (CPRs) to the Labor Commissioner unless excused from this requirement. This requirement will be phased in as follows:

(a) Applies immediately to public works projects that have already been under CMU monitoring, i.e. contractors on ongoing projects that have been submitting CPRs to the CMU will continue doing so.

(b) Will apply to any new projects awarded on or after April 1, 2015.

(c) May apply to other projects as determined by Labor Commissioner.
(d) Will apply to all public works projects, new or ongoing, on and after January 1, 2016.

19. PREFERENCE FOR MATERIALS

The Public Agency desires to promote the industries and economy of Contra Costa County, and the Contractor therefore promises to use the products, workers, laborers and mechanics of this County in every case where the price, fitness and quality are equal.

20. ASSIGNMENT

This agreement binds the heirs, successors, assigns, and representatives of the Contractor; but Contractor cannot assign it in whole or in part, nor any monies due or to become due under it, without the prior written consent of the Public Agency and the Contractor's surety or sureties, unless they have waived notice of assignment.

21. NO WAIVER BY PUBLIC AGENCY

Inspection of the work and/or materials, or approval of work and/or materials inspected, or statement by any officer, agent or employee of the Public Agency indicating the work or any part thereof complies with the requirements of this contract, or acceptance of the whole or any part of said work and/or materials, or payments therefore, or any combination of these acts, shall not relieve the Contractor of Contractor's obligation to fulfill this contract as prescribed; nor shall the Public Agency be thereby stopped from bringing any action for damages or enforcement arising from the failure to comply with any of the terms and conditions hereof.

22. HOLD HARMLESS AND INDEMNITY

(a) Contractor promises to and shall hold harmless and indemnify from the liabilities as defined in this section.
(b) The indemnities benefited and protected by this promise are the Public Agency and its elective and appointive boards, commissions, officers, agents and employees.
(c) The liabilities protected against are any liability or claim for damage of any kind allegedly suffered, incurred or threatened because of actions defined below, including personal injury, death, property damage, inverse condemnation, or any combination of these, regardless of whether or not such liability, claim or damage was unforeseeable at any time before the Public Agency approved the improvement plan or accepted the improvements as completed, and including the defense of any suit(s) or action(s) at law or equity concerning these.
(d) The actions causing liability are any act or omission (negligent or non-negligent) in connection with the matters covered by this contract and attributable to the contractor, subcontractor(s), or any officer(s), agent(s), or employee(s) of one or more of them.
(e) Non-conditions: The promise and agreement in this section is not conditioned or dependent on whether or not any Indemnities has prepared, supplied, or approved any plan(s), drawing(s), specifications(s) or special provision(s) in connection with this work, has insurance or other indemnification covering any of these matters, or that the alleged damage resulted partly from any negligent or willful misconduct of any Indemnities.

23. EXCAVATION

Contractor shall comply with the provisions of Labor Code Section 6705, if applicable, by submitting to Public Agency 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 trench excavation.

24. GOVERNMENT CODE SECTION 10532

Contractor shall be subject to the examination and audit of the Auditor General for a period of three years after final payment under the contract.

25. WARRANTY

The Contractor warrants to the Public Agency that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contractor Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work shall conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage.

26. CONSEQUENTIAL DAMAGES

The Contractor and Public Agency waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

(a) Damages incurred by the Public Agency for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

(b) Damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

(c) This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination. Nothing contained in this subparagraph shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

27. HAZARDOUS MATERIALS

(a) If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos, lead or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Public Agency in writing.

(b) The Public Agency shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. The Public Agency shall furnish in writing to the Contractor the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written notification from the Public Agency and Contractor. The Contract Time shall be extended appropriately.

28. SAFETY:

(a) **Safety Programs.** The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection

with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work, the Contractor shall meet with the campus Buildings and Grounds Manager, Project Manager, and Construction Manager to review Contractor's safety precautions and implementation of safety programs during the Work.

(b) **Safety Precautions.** The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support) and to avoid damage thereto. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work.

(c) **Safety Signs, Barricades.** The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities.

(d) **Safety Notices.** The Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

(e) **Safety Coordinator.** The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Project Inspector and the Architect.

(f) **COVID19 SMALL PROJECT SAFETY PROTOCOL**: **The Contractor shall adhere to the requirements set forth by Appendix B-1 Small Construction Safety Protocol of the Contra Costa County Health Officer Order No. HO-COVID19-09 dated April 29, 2020 (see attachment titled Appendix B-1 Small Construction Safety Protocol).**

29. SIGNATURES AND ACKNOWLEDGEMENT

Public Agency:

By: _____
Assistant Secretary, Governing Board
DAVID S. WETMORE, Director of Purchasing & Contracts

Note to Contractor: (1) Execute acknowledgement form below, and (2) if a corporation, affix Corporate Seal.

Contractor hereby also acknowledging awareness of and compliance with Labor Code S1861 concerning Worker's Compensation Law.

Contractor:

By: _____ (CORPORATE SEAL)
(Designate Official Capacity – **NAME**)

_____
Print NAME and TITLE

_____ _____
License Number Federal ID Number

NOTARY PUBLIC

==========

STATE OF CALIFORNIA)
) ss.
COUNTY OF CONTRA COSTA)

On _____, before me, _____, Notary Public,

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

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

Witness my hand and official seal.

_____

Notary Public

[SEAL]

Appendix B-1

Small Construction Project Safety Protocol

1. Any construction project meeting any of the following specifications is subject to this Small Construction Project Safety Protocol ("SCP Protocol"), including public works projects unless otherwise specified by the Health Officer:

    a. For residential projects, any single-family, multi-family, senior, student, or other residential construction, renovation, or remodel project consisting of 10 units or less. This SCP Protocol does not apply to construction projects where a person is performing construction on their current residence either alone or solely with members of their own household.

    b. For commercial projects, any construction, renovation, or tenant improvement project consisting of 20,000 square feet of floor area or less.

    c. For mixed-use projects, any project that meets both of the specifications in subsection 1.a and 1.b.

    d. All other construction projects not subject to the Large Construction Project Safety Protocol set forth in Appendix B-2.

2. The following restrictions and requirements must be in place at all construction job sites subject to this SCP Protocol:

    a. Comply with all applicable and current laws and regulations including but not limited to OSHA and Cal-OSHA. If there is any conflict, difference, or discrepancy between or among applicable laws and regulations and/or this SCP Protocol, the stricter standard shall apply.

    b. Designate a site-specific COVID-19 supervisor or supervisors to enforce this guidance. A designated COVID-19 supervisor must be present on the construction site at all times during construction activities. A COVID-19 supervisor may be an on-site worker who is designated to serve in this role.

    c. The COVID-19 supervisor must review this SCP Protocol with all workers and visitors to the construction site.

    d. Establish a daily screening protocol for arriving staff to ensure that potentially infected staff do not enter the construction site. If workers leave the jobsite and return the same day, establish a cleaning and decontamination protocol prior to entry and exit of the jobsite. Post the daily screening protocol at all entrances and exits to the jobsite. More information on screening can be found online at: https://www.cdc.gov/coronavirus/2019-ncov/community/index.html.

    e. Practice social distancing by maintaining a minimum six-foot distance between workers at all times, except as strictly necessary to carry out a task associated with the construction project.

f. Where construction work occurs within an occupied residential unit, separate work areas must be sealed off from the remainder of the unit with physical barriers such as plastic sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative entry/exit door to the entry/exit door used by residents. Available windows and exhaust fans must be used to ventilate the work area. If residents have access to the work area between workdays, the work area must be cleaned and sanitized at the beginning and at the end of workdays. Every effort must be taken to minimize contact between workers and residents, including maintaining a minimum of six feet of social distancing at all times.

g. Where construction work occurs within common areas of an occupied residential or commercial building or a mixed-use building in use by on-site employees or residents, separate work areas must be sealed off from the rest of the common areas with physical barriers such as plastic sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative building entry/exit door to the building entry/exit door used by residents or other users of the building. Every effort must be taken to minimize contact between worker and building residents and users, including maintaining a minimum of six feet of social distancing at all times.

h. Prohibit gatherings of any size on the jobsite, including gatherings for breaks or eating, except for meetings regarding compliance with this protocol or as strictly necessary to carry out a task associated with the construction project.

i. Cal-OSHA requires employers to provide water, which should be provided in single-serve containers. Sharing of any of any food or beverage is strictly prohibited and if sharing is observed, the worker must be sent home for the day.

j. Provide personal protective equipment (PPE) specifically for use in construction, including gloves, goggles, face shields, and face coverings as appropriate for the activity being performed. At no time may a contractor secure or use medical-grade PPE unless required due to the medical nature of a jobsite. Face coverings must be worn in compliance with Section 5 of the Health Officer's Order No. HO-COVID19-08, dated April 17, 2020, or any subsequently issued or amended order.

k. Strictly control "choke points" and "high-risk areas" where workers are unable to maintain six-foot social distancing and prohibit or limit use to ensure that six-foot distance can easily be maintained between individuals.

l. Minimize interactions and maintain social distancing with all site visitors, including delivery workers, design professional and other project consultants, government agency representatives, including building and fire inspectors, and residents at residential construction sites.

m. Stagger trades as necessary to reduce density and allow for easy maintenance of minimum six-foot separation.

n. Discourage workers from using others' desks, work tools, and equipment. If more than one worker uses these items, the items must be cleaned and disinfected with disinfectants that are effective against COVID-19 in between use by each new worker. Prohibit sharing of PPE.

o. If hand washing facilities are not available at the jobsite, place portable wash stations or hand sanitizers that are effective against COVID-19 at entrances to the jobsite and in multiple locations dispersed throughout the jobsite as warranted.

p. Clean and sanitize any hand washing facilities, portable wash stations, jobsite restroom areas, or other enclosed spaces daily with disinfectants that are effective against COVID-19. Frequently clean and disinfect all high touch areas, including entry and exit areas, high traffic areas, rest rooms, hand washing areas, high touch surfaces, tools, and equipment

q. Maintain a daily attendance log of all workers and visitors that includes contact information, including name, phone number, address, and email.

r. Post a notice in an area visible to all workers and visitors instructing workers and visitors to do the following:
    i. Do not touch your face with unwashed hands or with gloves.
    ii. Frequently wash your hands with soap and water for at least 20 seconds or use hand sanitizer with at least 60% alcohol.
    iii. Clean and disinfect frequently touched objects and surfaces such as work stations, keyboards, telephones, handrails, machines, shared tools, elevator control buttons, and doorknobs.
    iv. Cover your mouth and nose when coughing or sneezing, or cough or sneeze into the crook of your arm at your elbow/sleeve.
    v. Do not enter the jobsite if you have a fever, cough, or other COVID-19 symptoms. If you feel sick, or have been exposed to anyone who is sick, stay at home.
    vi. Constantly observe your work distances in relation to other staff. Maintain the recommended minimum six feet at all times when not wearing the necessary PPE for working in close proximity to another person.
    vii. Do not carpool to and from the jobsite with anyone except members of your own household unit, or as necessary for workers who have no alternative means of transportation.
    viii. Do not share phones or PPE.

SECTION 00650

NOTICE TO PROCEED

DATE: _____

TO: _____

ADDRESS: _____

_____

PROJECT: _____

You are notified that the Contract Time under the above contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Section 00600, Construction Agreement, the date of Substantial Completion is _____, and the date for Final Completion is _____.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

By :_____

Ines Zildzic
Vice Chancellor, Facilities Planning and Construction

END OF SECTION 00650

SECTION 00800

SUPPLEMENTARY GENERAL CONDITIONS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Refer to Scope of Work in Section 00600 Construction Agreement.

1.2 REFERENCES

A. The publications listed below form a part of this specification by reference.

1. Current California Occupational Safety and Health Act Regulations
2. Current California Occupational Safety and Health Construction Safety Orders
3. This work will be contracted using the District's Short Form Construction Agreement; See Section 00600.

1.3 SUBMITTALS

A. Provide submittals in the format, and as described below:

1. **Submittals shall be submitted to the District, electronically in PDF format, within four (4) Calendar Days from the Notice to Proceed, except as otherwise noted.**
2. Not used.
3. Submittals that require local and State agency approval, shall conform to this Specification and the requirements of the local or State agency.
4. **District will review and provide a response to submittals within four (4) calendar days (excluding holidays).** Submittals that include design documents prepared by a licensed California Engineer will be submitted for the District's records. Any District review and response to the Contractor's design documents by a licensed California Engineer will be for format and general compliance only. Contractor and Contractor's licensed California Engineer are responsible for compliance with all applicable State of California codes, laws and regulations applicable to this project.

B. Provide submittals for all equipment, if any, listed on the Drawings or in the Specifications.

C. The Schedule of Values shall be submitted to the District within seven (7) calendar days after the Notice of Award. The Schedule of Values shall be broken down by the following minimum categories:

1. Mobilization and installation of flooring protection
2. Lowering electrical light fixtures and other equipment
3. Installation of Acoustical Panels
4. Installation of Audio-Visual Equipment
5. Testing and Training on Audio-Visual Equipment

6. Owner and Maintenance Manuals and Warranties
7. As-Built Drawings

The District will only pay for Work installed at the Site.

D. CPM construction schedule shall be submitted within **seven (7) calendar days** from the Contract Award date. District and Contractor shall meet and review the schedule. The Notice to Proceed will not be issued until the District accepts the schedule or accepts it with conditional changes. Below are the minimum activity types that shall be included in the schedule:

1. Contractor Submittals
2. Submittal Reviews by District
3. Procurement and Fabrication of Equipment and Materials
4. Construction activities corresponding to the Schedule of Values
5. Substantial Completion Milestone
6. Project Closeout Activities.
7. Final Completion Milestone

E. Submittals are for review of conformance with the requirements of the Contract.

1.4 SUBSTITUTIONS.

A. *One Product Specified.* Unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific material, product, thing or service, or any specific name, make, trade name, or catalog number, with or without the` words "or equal," such specification shall be deemed to be used for the purpose of facilitating description of the material, product, thing or service desired and shall be deemed to be followed by the words "or equal" unless the Contract Documents specify "no substitution allowed", "no equal", "no equivalent", or other language with similar meaning, in which case no substitutions will be allowed. Pursuant to Paragraph 1.3.F.3, the Contractor may, unless otherwise stated, within three (3) work days after the bid opening, submit a substitution request for any material, product, thing or service, which shall be materially equal or better in every respect to that so indicated or specified ("Specified Item") and will completely accomplish the purpose of the Contract Documents.

1. *Products Specified which are Commercially Unavailable*. If the Contractor fails to make a request for substitutions for products, within three (3) work days after bid opening, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item. The decision to grant this request is solely at the District's discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or guaranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the contract sum should the substituted item cost less

than the Specified Item. All risks of delay due the approval of a requested substitution by the District, DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor's pay request.

B. Substitution Request Form. Requests for substitutions of materials, products, things or services in place of a Specified Item must be submitted to the District in writing on the District's Substitution Request Form ("Request Form") within three (3) work days after bid opening, except as provided for in Paragraph 1.3.F.1.

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

   (a) Is equal in quality/service/ability to the Specified Item;
   (b) Will entail no changes in detail, construction, and scheduling of related work;
   (c) Will be acceptable in consideration of the required design and artistic effect;
   (d) Will provide no cost disadvantage to the District;
   (e) Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
   (f) Will required no change of the construction schedule.

2. In completing the Substitution Request Form, the bidder shall state, with respect to each requested substitution, that the bidder will agree to provide the Specified Item in the event that the District denies the bidder's request for such requested substitution. In the event the District denies the bidder's requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District and waives all rights to submit a claim.

C. After Bid Opening. After bids are opened, the apparent lowest bidder shall provide, within three (3) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as may be required to assist the Design Consultant and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

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

2. If the Design Consultant and District accept a proposed substitution, the Contractor agrees to pay for all District expenses, including but not limited to Division of the State Architect fees, engineering and design services, compensation to the Design

Consultant for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor Provided Materials: The Contractor provided materials shall include any associated equipment and appurtenances required for performing the contract properly and in accordance with the equipment manufacturer's literature.

B. All materials shall be new, unless otherwise authorized or specified in the scope of work of this specification.

PART 3 - EXECUTION AND RELATED REQUIREMENTS

3.1 GENERAL

A. Work Restrictions: Below are special work restrictions for this project.

1. **The Contractor will NOT be allowed to mobilize and perform work in the Gymnasium. until such time all materials and equipment are procured and ready for delivery to the Site, including acoustical panels and audio-visual equipment. In addition, the Contractor will not be allowed to start work on Site until October 12, 2020, unless otherwise approved in writing by the District.**
2. **The Gymnasium will be in use by the College during the construction phase and the Contractor will only be allowed to occupy and work in one-half of the Gymnasium at any one time. The Contractor shall include the proposed sequence of work in its Microsoft Project CPM Schedule and provide a floor plan of the Gymnasium to communicate its proposed phased scope of work that only occupies one half of the Gym at any one time. The Contractor will be allowed to work on Saturdays and after hours to help maintain their schedule, but this will be at the Contractor's expense.**
3. **The Contractor is required to protect the newly refinished Gymnasium flooring. The District, College and Contractor shall conduct a pre-construction walk to document the existing conditions of the Gym floor, including pictures and videotape by the Contractor, which will be submitted to the District for its records prior to the Contractor commencing work within the Gymnasium. At a minimum, the protection shall include heavy duty non-friction tarp or rubber type underlayment with ¾ inch plywood on top to support Contractor's scissor-lift and other light duty equipment to install contract materials and equipment above the Gym floor. Although these are the minimum requirements, the Contractor is responsible for any damage to the existing flooring or other parts of the Gymnasium (e.g., walls, bleachers, ceiling), and will be responsible to repair said damage, if any, at the Contractor's expense.**

4. **Staging Area: The staging area will be within the ½ of the Gym occupied by the Contractor at any one time. Other areas outside of the Gym might be available upon written approval of the District.**

5. **College will require the Contractor to remove floor protection for game days. The games start in the early afternoon or in evenings. The schedule is not currently available, but the Contractor shall assume it will have to remove the floor protection six times after October 12, 2020 and reinstall to continue the Work.**

B. Contractor shall provide barricades, wayfinding signage, safety signage, and COVID-19 signage around the construction site through Substantial Completion to deter access by students, faculty and the public to areas under the control of the Contractor.

C. Contractor will be allowed to have access and use Campus utilities for temporary water and electricity, but Contractor shall be responsible to investigate prior to bid, and for all work necessary to connect to existing utilities for temporary use.

D. Contractor shall control all construction generated dust during construction, and clean-up said dust and debris daily to prevent migration to active areas in the Gymnasium by students and faculty.

E. Scheduling and Coordination: Before commencing work on a specific area, the Contractor shall confirm that all requirements have been met pertaining to scheduling of the work. The Contractor shall further determine that all required written notices have been given to the District.

F. Scheduling and Sequence of Work: The work shall be prosecuted in such a manner as to cause the least interference with the normal functions of the campus activity in the adjacent areas. Prior to beginning any work, the Contractor shall meet with the District and the Contractor's schedule shall be approved as noted in Article 1.3D above.

G. Interruption of Utilities Services: Interruptions shall be kept to a minimum and shall be at such times and duration as approved ahead of time by the District. No interruption shall occur unless scheduled with the District and approved in advance in writing as to time and duration of such interruption. No utility interruptions that impact building operation during classes will be allowed, and these types of interruptions, if any, shall be scheduled for after normal hours when classes are not in session.

H. Material, equipment, tools and workmen shall be scheduled and delivered to the Site in a timely manner to avoid delay in the work. Materials provided shall be inspected by the Contractor to make certain they follow the specifications and are free from defects and damage.

I. Measurements: Before fabrication, obtain necessary field measurements and verify all measurements.

J. Bathroom Facilities: The Contractor will NOT be allowed to use College bathroom facilities and the Contractor shall provide porta-potties and cleaning stations to wash hands for construction personnel located at the Site. The location shall be approved in writing by the District before locating the porta-potties.

K. Workmanship: Skilled personnel shall execute in a careful, neat, and proficient manner and in compliance with accepted trade practices for all work. All work shall be executed in accordance with Cal/OSHA standards and safety orders. And all work on this contract shall comply with all Local, State, and Federal Environmental Laws.

L. Incidental Work: Minor incidental materials and work not specifically mentioned herein, but necessary for the proper completion of the specified work, shall be provided without additional cost to the District

M. Administrative Forms: District shall provide its standard forms for use by Contractor.

3.2 EXISTING CONDITIONS & DRAWINGS

A. See Section 00210, Information Available to Bidders for documents available for review by the Contractor and its subcontractors prior to and after bid.

3.3 WORK BY CALIFORNIA LICENSED ENGINEER

A. Note that modifications to existing building structures, fire systems, or ADA changes, if any are discovered during construction, will require DSA approval. Contractor will be granted a non-compensable time extension for the duration it takes to obtain DSA approval. A change order will be negotiated for added direct labor field construction costs, if any.

3.4 NOISE CONTROL

A. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to building occupants.

1. Notify District's Representative not less than two days in advance of proposed disruptive operations.
2. Obtain District's Representative's written permission before proceeding with disruptive operations.

3.5 SITE WORK-Not Used

3.6 PROJECT CLOSEOUT REQUIREMENTS (After Substantial Completion & Before Final Completion)

A. Refer to the Drawings listed in Section 00010, Table of Contents for requirements, and these Supplementary General Conditions.

B. Provide final clean-up of Site prior to Final Completion.

C. Warranty

1. The Contractor warrants to the District that material and equipment furnished under the Contract will be of the highest quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty and guaranty to District includes, but is not limited to the following representations:
    a. In addition to any other warranties and guaranties provided elsewhere, Contractor shall, and hereby does, warrant all Work after the Certificate of Substantial Completion date issued by District and shall repair or replace any or all such work, together with any other work, which may be displaced in so doing that may prove defective in workmanship or materials within a one (1) year period from date of completion as defined in Public Contract Code Section 7107(c) without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.
    b. In the event of failure of Contractor to comply with above mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at expense of Contractor who hereby agrees to pay costs and charges therefore immediately on demand.
    c. If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District, the District will attempt to give the notice required by this Article. If the Contractor cannot be contacted or does not comply with the District's requirements for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or attention which shall be charged against Contractor. Such action by the District will not relieve the Contractor of the guarantee provided in this Article or elsewhere in this Contract.
    d. This Article does not in any way limit the guarantee on any items for which a longer warranty or guaranty is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guaranty or warranty certificates upon completion of the project.
2. Format - All Warranties/Guaranties and shall include:
    a. Contractor, subcontractor, and equipment supplier shall provide Warranties and Guaranties on their original company letterhead with original signature.
    b. Contractor shall provide original Warranties and Guaranties. Photocopies, fax and e-mail copies are not acceptable.
3. Preparation

a. Contractor shall obtain warranties and guaranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within fifteen (15) days after Certificate of Substantial Completion date of the applicable Work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty or guaranty blank until the date of completion is determined by District.

b. Contractor's Response to Construction Warranty and Guaranty Service Requirements: Following oral or written notification by the District, respond to construction warranty and guaranty service requirements within 24 hours, or earlier in case of emergency.

4. Warranty and/or Guaranty Tags

a. At the time of installation of mechanical equipment or other major system elements, tag each warranted or guaranteed item with a durable, oil and water-resistant tag approved by the District. Attached each tag with a copper wire and spray with a silicone waterproof coating. The date of Substantial Completion and the Contractor Authorized signature must remain blank until the date the District makes a determination of Substantial Completion. Show the following information on the tag:

WARRANTY/GUARANTY INFORMATION – [insert project number and name on actual tag]

a. Type of product/material_____.
b. Model number_____.
c. Serial number_____.
d. Contract number_____.
e. Warranty/Guaranty period _____ (months) from_____ to_____.
f. Inspector's signature_____.
g. Construction Contractor_____.
   Address_____.
   Telephone number_____.
h. Warranty or Guaranty contact_____.
   Address_____.
   Telephone number_____.
i. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

3.7 Project As-Built

A. Contractor shall dedicate one complete full-size set of the Contract Drawings and one complete Project Manual for use in documenting as-built conditions, including but not limited to; RFIs, ASI, PCOs and Change Order.

B. Contractor shall submit to District in hard copy one original and two copies of all Project As-Built Documents. In addition, one electronic copy shall be submitted to District. District reserves the right to require resubmittal in accordance with these Supplementary General Conditions if the documents are inaccurate or incomplete, or otherwise fail to meet the requirements of these Contract Documents.

C. Electronic Media Format: Electronic media format for all Project As-Built Documents shall be Adobe PDF, with chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM or flash drive.

3.8 TIME OF COMPLETION

A. See Section 00300, Bid Proposal Form for specific requirements to complete the Work. Time requirements are also included in Section 00600, Construction Agreement.

B. Substantial Completion: The date on which the Work or designated portion thereof, as certified by the District and Architect, is sufficiently complete, in accordance with the Contract Documents, so the District may occupy or utilize the Work or designated portion thereof for the use for which it is intended.

C. Remaining Work after Substantial Completion: If the Architect or District determines that the work required by the Contract is Substantially Complete during any inspection conducted pursuant to this Agreement, the Contractor shall be notified of that determination and the District shall determine if there is Remaining Work. A list of Remaining Work shall be issued only by the District or the Architect and only after the District has certified Substantial Completion. The District or Architect shall give the Contractor the necessary instructions for correction or completion of the Remaining Work, and the Contractor shall immediately comply with and execute such instructions within the Contract Time. Upon completion of the Remaining Work, another inspection shall be made that shall constitute the Final Inspection, provided the Remaining Work has been completed to the satisfaction of the District. If the remaining work has been completed to the satisfaction of the District, the District shall make the final acceptance and notify the Contractor in writing of this acceptance as of the date of Final Inspection.

D. Final Completion: The date when all Work for the total project has been completed in accordance with the terms of the Contract Documents and has been inspected following completion of Work identified in the Punch List Inspection and accepted by the Architect and the District. Final Completion is also sometimes referred to as Final Acceptance.

~~**3.9 ADDITIONAL REQUIREMENTS FOR DSA-APPROCED PROJECTS**~~

~~**A.** All substitutions affecting DSA regulated items shall be considered as a Construction Change Document or Addenda and shall be approved by DSA prior to fabrication and installation, as required by IR A-6 and Section 4-338(c), Part 1. Substitutions shall be for any material, system or product that would otherwise be regulated by DSA.~~

~~**B.** All Addenda must be signed by **Engineer of Record** and approved by DSA (Section 4-338, Part 1).~~

~~**C.** The Construction Change Documents (Section 4-338(c), Part 1) must be signed by all the following:~~

~~1. A/E of Record~~
~~2. Structural Engineer (when applicable)~~
~~3. Delegated Professional Engineer (when applicable)~~
4. ~~DSA~~

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

500 Court Street, Martinez, CA 94553

SUBSTITUTION REQUEST FORM

RFS # _____ Date: _____

Contractor Name: _____

Contract #:

DSA Application #: _____

Campus: Contra Costa College

Project No., Name: _____

Contractor pursuant to General Conditions submits the proposed items. If the District accepts such items so described, the undersigned may furnish such item with all necessary labor, materials, equipment and incidentals to perform and complete the Work.

Item No.	SPECIFIED ITEM OR DRAWING	SPECIFICATION SECTION	PROPOSED SUBSTITUTION (and name of Subcontractor if different)

CERTIFICATION

Under penalty of perjury under the Laws of California, I certify that the proposed substitution will be readily available, perform adequately the functions and achieve the results called for by the design concept, be similar in substance to that specified, and be suited to the same use as that specified in Contract Documents.

Contractor: _____ _____ _____

(Please print name of company) Name and Title (print/type) Contractor Authorized Representative Date

A. Does the substitution affect dimensions shown on Drawings?
B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?
C. What effect does the substitution have on other trades?
D. Will substitution cause change to Project Schedule, or to critical delivery dates? Add ? Shorten ?
E. Differences between proposed substitution and specified item?
F. What is the Cost Differential including all mark-ups?
G. Are Manufacturer's guarantees for the proposed item the same as for item specified? Explain differences.
H. The undersigned accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution.
I. The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

A/E Response:	District Representative Response:
O Accepted	O Accepted
O Not Accepted	O Not Accepted
O Accepted As Noted	O Accepted As Noted
O Received Too Late	O Received Too Late
BY:_____ Date:_____	By:_____ Date: _____

END OF SECTION 00800

Los Medanos College

Gymnasium Acoustic Treatment and Audio Visual System

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Project L-638

PROJECT MANUAL

Construction Documents

June 29, 2020

IBI Group - Project No. 115448

IBI GROUP
333 West San Carlos Street, Suite 600
San Jose, CA 95110 USA
Tel (408) 924-0811

PROJECT MANUAL

L-638 Gymnasium Acoustic Treatment and Audio Visual System

LOS MEDANOS COLLEGE
CONTRA COSTA COMMUNITY COLLEGE DISTRICT
IBI Group Project No. 115448

Date: June 29, 2020

Owner: Contra Costa Community College District
500 Court Street
Martinez, CA 94553

ARCHITECT:
IBI Group
333 West San Carlos Street, Suite 600
San Jose, CA. 95110

By: Sharon A Russo
Sharon Russo, AIA (C-27345)

LICENSED ARCHITECT
SHARON A. RUSSO
No. C27345
REN. 2/21
STATE OF CALIFORNIA

ACOUSTICAL, TECHNOLOGY, AND LIGHTING DESIGN:
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Castro Valley, CA 94546

NORTH CAROLINA
PROFESSIONAL
SEAL
025217
ENGINEER
STEVEN J. THORBURN

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SECTION 09 77 23

FABRIC-WRAPPED PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes shop-fabricated fabric-wrapped panels of the following type(s):
   1. Acoustical.

1.3 REFERENCES

A. American Association of Textile Chemists and Colorists (AATCC):
   1. AATCC Test Method 8: Colorfastness to Crocking: AATCC Crockmeter Method.
   2. AATCC Test Method 16: Colorfastness to Light.

B. ASTM International:
   1. ASTM C 209: Standard Test Methods for Cellulosic Fiber Insulating Board.
   2. ASTM C 423: Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
   3. ASTM C 612: Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
   4. ASTM D 1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
   5. ASTM E 84: Standard Test Method for Surface Burning Characteristics of Building Materials.
   6. ASTM E 795: Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

C. California Code of Regulations – Title 17, Public Health.

D. California Department of Public Health (CDPH):
   1. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers – Version 1.1, February 2010.

E. California Green Building Standards Code (CALGreen) – California Code of Regulations, Title 24, Part 11.

F. International Organization for Standardization (ISO):

1. ISO 14021: Environmental Labels and Declarations – Self-Declared Environmental Claims (Type II Environmental Labeling).

G. National Fire Protection Association (NFPA):

1. NFPA 265: Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls.

H. South Coast Air Quality Management District (SCAQMD):

1. Rule 1168 – Adhesive and Sealant Applications.

I. Underwriters Laboratory (UL):

1. UL 723: Standard Test for Surface Burning Characteristics of Building Materials.

1.4 DEFINITIONS

A. NRC: Noise Reduction Coefficient.

B. VOC: Volatile organic compounds.

1.5 COORDINATION

A. Coordinate locations of electrical and signal wall boxes with corresponding openings in fabric-wrapped panels.

1. At panels, install electrical and signal wall boxes, and other items intended for flush wall installation, so that front face of box sits flush with face of fabric-wrapped panel.

B. Coordinate sizes and locations of concealed framing, blocking, backing, furring, reinforcements, and other related Work specified in other Sections to ensure that fabric-wrapped panels can be supported and installed as indicated.

1.6 PREINSTALLATION MEETING

A. Preinstallation Conference: Conduct conference at Project site to review pertinent issues related to installation of fabric-wrapped panels.

1.7 ACTION SUBMITTALS

A. Product Data: For each type of fabric facing, panel core material, and mounting method indicated. Include technical data and tested physical and performance properties.

B. Shop Drawings: For fabric-wrapped panels. Include mounting devices and details; details at panel head, base, joints, and corners; and details at ceiling, floor base, and wall intersections. Indicate panel facing and core materials.

1. Include elevations showing panel sizes, layout of panel joints, and direction of fabric weave and pattern matching.
2. Show intersections with wall base, doors, windows, and other adjacent work. Indicate operating ranges of doors and casework doors and drawers adjacent to fabric-wrapped panels. Include and coordinate the wall-mounted items with each other, using input from installers of the items involved, including the following:
    a. Electrical receptacles and switches.
    b. HVAC thermostats and temperature sensors.
    c. Light fixtures.
    d. HVAC air inlets and diffusers.
    e. Speakers.
    f. Fire alarm devices.
    g. Access panels

C. Samples for Verification:

1. Fabric: Full-width by 36-inch long Sample of each fabric type from dye lot to be used for the Work, and as follows:
    a. Show complete pattern repeats.
    b. Mark top and face of fabric.
2. Mounting Device: Full-size sample.
3. Assembled Panel: For each type of fabric-wrapped panel facing material and core material, approximately 24 inches by 24 inches. Show edge profile, corner, typical joint, and mounting methods.

D. CALGreen Submittals:

1. Manufacturer's product data for adhesives indicating compliance with product requirements specified in "CALGreen Requirements" Article.

1.8 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of fabric-wrapped panel, indicating compliance with specified performance requirements.

1.9 CLOSEOUT SUBMITTALS

A. Maintenance Data: For fabric-wrapped panels to include in maintenance manuals. Include fabric manufacturer's written cleaning and stain-removal recommendations.

1.10 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials from same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Fabric Facing: For each fabric, color, and pattern installed, provide length equal to 10 percent of amount installed, but no fewer than 10 yards.
   2. Mounting Devices: Full-size units equal to 5 percent of amount installed, but no fewer than five devices, including unopened adhesives.

1.11 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials, fabrication, and installation.
   1. Install mockup of typical wall area in location and of size indicated, or if not indicated, as directed by Architect. Include the following conditions:
      a. Typical joint between panels.
      b. Panel installation around door opening.
      c. Panel installation around window opening.
      d. Panel edge condition at abutting wall.
      e. Panel top edge (at ceiling) and bottom edge (at base).
      f. Outside corner.
      g. Inside corner
      h. Include intersection at wall and ceiling, corner, cabinets, and door opening.
   2. Approved mockup may be become part of the completed Work if undisturbed at time of Substantial Completion.
   3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

B. Installer Qualifications: An installer acceptable to fabric-wrapped panel manufacturer for installation of units required for this Project.

C. Fabric-Wrapped Panel Fabricator Qualifications: Shop with demonstrated experience in custom-fabricating products similar to those required for this Project, with a record of successful in-service performance, and which employs skilled workers qualified to perform such work.

1.12 DELIVERY, STORAGE, AND HANDLING

A. Comply with fabric-wrapped panel manufacturer's written instructions for minimum and maximum temperature and humidity requirements for shipment, storage, and handling.

B. Store materials and panels in a temperature-controlled dry place with adequate air circulation.

C. Stack panel materials flat to prevent sagging, and protect edges from crushing and impact.

1.13 FIELD CONDITIONS

A. Environmental Limitations: Do not install fabric-wrapped panels until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work at and above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Lighting: Do not install fabric-wrapped panels until a permanent level of lighting is provided on surfaces to receive fabric-wrapped panels.

C. Air-Quality Limitations: Protect fabric-wrapped panels from exposure to airborne odors, such as tobacco smoke, and install panels under conditions free from odor contamination of ambient air.

D. Field Measurements: Verify locations of fabric-wrapped panels and actual dimensions of openings and penetrations by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 CALGREEN REQUIREMENTS

A. General: Conform with all applicable requirements of the California Green Building Standards Code (CALGreen).

B. Provide adhesives which comply with current VOC content limits of the South Coast Air Quality Management District (SCAQMD) Rule 1168, except as noted otherwise below. Such products shall also comply with Rule 1168 prohibition of the use of certain toxic compounds (chloroform, ethylene, dichloride, methylene chloride, perchloroethylene, and trichloroethyelen).

1. Aerosol adhesives and similar unit sizes of adhesives, and sealants (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions of use of certain toxic compounds, of the California Code of Regulations, Title 17, commencing with Section 94507.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: Fabric facings and panel core materials shall comply with the following as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: Fabric facings and panel core materials shall comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    a. Textile Fabric Facing Material:
        i) Flame Spread Index: 25 or less.
        ii) Smoke Developed Index: 450 or less.
    b. Panel Core Material:
        i) Flame Spread Index: As indicated for each panel core type.
        ii) Smoke Developed Index: 450 or less.
2. Fire Growth Contribution: Fabric facing material shall meet the following criteria when tested in the manner intended for use in accordance with the Method B protocol of NFPA 265.
    a. During the 40 kW exposure, flames shall not spread to the ceiling.
    b. Flame shall not spread to the outer extremities of the samples on the 8-foot by 12-foot walls.
    c. Flashover, as described in NFPA 265, shall not occur.
    d. The total smoke released throughout the NFPA 265 test shall not exceed 1,000 sq meters.

2.3 FABRIC-WRAPPED PANELS

A. Fabric-Wrapped Panel: Manufacturer's standard panel construction consisting of fabric facing material laminated to front face, edges, and back edge border of core.

1. Manufacturers/Products: Subject to compliance with requirements, provide products by one of the following:
    a. G&S Acoustics, Resolute (to match existing panels in gymnasium).
    b. Manufacturer of equal products in accordance with Division 1 requirements for product substitutions.
2. Mounting: As indicated for each panel core type.
3. Joints Between Panels: Flush.
4. Panel Corner Detail (As Viewed From Front): Square.
5. Panel Dimensions:
    a. Width: As indicated on Drawings.
    b. Height: As indicated on Drawings.

B. Fabric Facing Material: Fabric from same dye lot.

1. Manufacturer: DesignTex, Appleseed 2682.
    a. Color*[s]*: 2682-804 Pebble.
2. Fiber Content: 57 percent polyester, 43% Postconsumer Recycled Polyester.
3. Width: 55 inches usable.
4. Fire-Test Response Characteristics: As specified in “Performance Requirements” Article.
5. Colorfastness to Light: 40 hours, per AATCC 16E.
6. Finish: Nano Stain Resistant
7. Weight per Unit: 16.5 ounces/linear yard
8. Colorfastness to Crocking: Class 4 minimum (dry), Class 4 minimum (wet), per AATCC 8.
9. Acoustical Performance: When tested per ASTM C 423, will not cause net loss exceeding 0.05 in Noise Reduction Coefficient (NRC) when applied over acoustical core material.
10. Abrasion: 100,000 Wyzenbeek double rubs
11. VOC Emissions: Complies with requirements in “LEED v4 Requirements” Article.

C. Panel Core:
1. Acoustical: High Impact, fabric covered compound core of perforated .060 co-polymer facing sheet laminated to 6-7 pcf fiberglass; ASTM C 612, Type IA or Types IA and IB; unfaced, dimensionally stable, molded rigid board.
    a. Thickness: 2 inches.
    b. Density: 6 - 7 lbs per cu ft.
    c. NRC:
        i) 2-Inch Thickness: 1.00 minimum, per ASTM C 423 (for Type A mounting, per ASTM E 795).
    d. Fire-Test Response Characteristics: As specified in “Performance Requirements” Article, and as follows:
        i) Surface Burning Characteristics: Per ASTM E 84.
            a) Flame Spread: 25 or less.
            b) Smoke Developed Index: 50 or less.
    e. Edge Profile: Square.
    f. Edge Construction: Manufacturer’s standard chemically-hardened core with no frame.
    g. Mounting: Two-piece metal zee clips at backside of panel.
    h. Recycled Content:
        i) Postconsumer: 4 percent minimum.
        ii) Preconsumer (Post-Industrial): 26 percent minimum.

i. VOC Emissions: Complies with requirements in “LEED v4 Requirements” Article.

2.4 ACCESSORIES

A. Adhesives for Fabric Facing Material: Provide adhesive, primer and sealer, produced expressly for use with selected facing material on panel core material indicated, and as recommended in writing by manufacturer of facing material.

1. VOC Content: Complies with requirements specified in “CALGreen Requirements” Article.
2. VOC Emissions: Complies with requirements specified in “LEED v4 Requirements” Article.

B. Concealed Mounting Devices for Acoustical Panels: Manufacturer’s two-piece metal zee clips, designed to support weight of panel and permit panel removal. One part of clip mechanically attached to back of panel, and other part attached to substrate, for interlocking fit.

2.5 FABRICATION

A. General: Manufacturer’s standard panel construction consisting of textile fabric facing material adhered to front face (smooth side), edges, and back border of panel core material. Fabricate fabric-wrapped panels to sizes and configurations indicated; adhere facing materials to panel core material to produce installed panels with visible surfaces fully covered and stretched straight, on the grain, tight, square, and free from puckers, ripples, wrinkles, sags, blisters, seams, adhesive, or other visible distortions or foreign matter.

1. Wrap fabric facing material over smooth side of panel core material, minimum of 2 inches around back of panel at all butted panel edges, both at adjacent panels, and where abutting adjacent surfaces.
2. Tailor fabric facing at square corners.
3. Where radius or other nonsquare corners are indicated, attach facing material so there are no seams or gathering of material.
4. Where fabric facings with directional or repeating patterns are indicated, mark facing material top and attach facing in same direction so pattern matches in adjacent panels. Install facing material with pattern square to the panel, unless indicated otherwise.
5. Panel Width: As specified.
6. Panel Height: As specified.

B. Fabric-Wrapped Panel Schedule:

1. Fabric-Wrapped Panel Type FWP-1:
   a. Panel Core Type: Acoustical.
   b. Fabric Facing: DesignTex Appleseed, Pebble.

C. Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch for the following:
   1. Thickness.
   2. Edge straightness.
   3. Overall length and width.
   4. Squareness from corner to corner.
   5. Chords, radii, and diameters.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for levelness, wall plumbness, maximum moisture content, and other conditions affecting performance of work.
   1. Flatness tolerance is not to vary more than 1/8 inch in 10 feet nor vary at a rate greater than 1/16 inch per foot.

B. Verify that substrate surfaces are clean, dry, smooth, and structurally sound.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall-covering, including mold, mildew, oil, grease, incompatible primers, dirt, and dust.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.
   1. Moisture Content: Maximum of 5 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.
   2. Gypsum Board: Prime with primer as specified in Section 09 91 00 "Painting;" fill cracks and surface blemishes with filler, and sand smooth.
   3. Existing Painted Surfaces: Treat areas susceptible to bleeding with primer/sealer.

D. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

E. Acclimatize fabric-wrapped panels by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 INSTALLATION – FABRIC-WRAPPED PANELS

A. General: Comply with fabric-wrapped panel manufacturer's written installation instructions.

B. Install fabric-wrapped panels in locations indicated with vertical surfaces and edges plumb, top edges level and in alignment with other panels, faces flush, and scribed to fit adjoining work accurately at borders and penetrations.

1. Use type of manufacturer's recommended concealed mounting method indicated for each panel core type. Mount panels securely to supporting substrate.
2. Butt panels together tightly.
    a. Facing material to wrap around edges of both adjacent panels at butt joints for flush seam installation. Do not use plastic edge moldings at butt joints between panels.
    b. Variation of Joint Width: Not more than 1/16 inch wide from hairline in 48 inches, noncumulative.
3. Install fabric-wrapped panels to maintain sequence that facing material was cut from roll during fabrication.
    a. Align and level fabric pattern and grain among adjacent panels.
4. Where panels are required to be cut to accommodate field conditions, backcut core material without cutting wall-covering facing material. Trim excess wall-covering, tailor at corners, stretch tight over panel edge, and readhere to panel edge and back border using adhesive.
    a. Backcut openings for electrical receptacles, switches, and other items occurring in the wall. Cut "X" pattern in facing material over opening and wrap flaps around edges of opening, stretch tight, and readhere to edges and back of panel using adhesive. Wrapped openings to fit cleanly over device boxes.
5. Panel edges at door and window openings to align cleanly with edges of opening or frame.

3.4 INSTALLATION TOLERANCES

A. Variation From Plumb and Level: Plus or minus 1/16 inch.

B. Variation of Panel Joints From Hairline: Not more than 1/16 inch wide.

3.5 ADJUST AND CLEAN

A. Remove excess adhesive at finished seams, perimeter edges, and adjacent surfaces.

B. Use cleaning methods recommended in writing by textile fabric facing material manufacturer.

1. Clip loose threads, and remove pills and extraneous materials.

C. Install hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items. Verify that cut edges of facing material are completely concealed.

3.6 PROTECTION

A. Provide protection methods and materials needed to ensure that fabric-wrapped panels will be without deterioration or damage at time of Substantial Completion.

B. Replace panels that cannot be cleaned and repaired in a manner approved by Architect.

END OF SECTION 09 77 23

SECTION 09 77 26

ACOUSTICAL HANGING PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. The work consists of furnishing all labor materials, accessories and equipment necessary to cover all areas shown on the drawings and specified herein.

1.2 SUMMARY

A. This Section includes shop-fabricated panels of the following type(s):

1. Acoustical baffles.

1.3 REFERENCES

A. American Association of Textile Chemists and Colorists (AATCC):

1. AATCC Test Method 8: Colorfastness to Crocking: AATCC Crockmeter Method.
2. AATCC Test Method 16: Colorfastness to Light.

B. ASTM International:

1. ASTM C 209: Standard Test Methods for Cellulosic Fiber Insulating Board.
2. ASTM C 423: Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
3. ASTM C 612: Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
4. ASTM D 1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
5. ASTM E 84: Standard Test Method for Surface Burning Characteristics of Building Materials.
6. ASTM E 795: Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

C. California Code of Regulations – Title 17, Public Health.

D. California Department of Public Health (CDPH):

1. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers – Version 1.1, February 2010.

E. California Green Building Standards Code (CALGreen) – California Code of Regulations, Title 24, Part 11.

F. International Organization for Standardization (ISO):

1. ISO 14021: Environmental Labels and Declarations – Self-Declared Environmental Claims (Type II Environmental Labeling).

G. National Fire Protection Association (NFPA):

1. NFPA 265: Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls.

H. South Coast Air Quality Management District (SCAQMD):

1. Rule 1168 – Adhesive and Sealant Applications.

I. Underwriters Laboratory (UL):

1. UL 723: Standard Test for Surface Burning Characteristics of Building Materials.

1.4 DEFINITIONS

A. NRC: Noise Reduction Coefficient.

B. VOC: Volatile organic compounds.

1.5 COORDINATION

A. Coordinate locations of electrical and signal wall boxes with corresponding openings in fabric-wrapped panels.

1. At panels, install electrical and signal wall boxes, and other items intended for flush wall installation, so that front face of box sits flush with face of fabric-wrapped panel.

B. Coordinate sizes and locations of concealed framing, blocking, backing, furring, reinforcements, and other related Work specified in other Sections to ensure that fabric-wrapped panels can be supported and installed as indicated.

1.6 PREINSTALLATION MEETING

A. Preinstallation Conference: Conduct conference at Project site to review pertinent issues related to installation of fabric-wrapped panels.

1.7 ACTION SUBMITTALS

A. Product Data: For each type of fabric facing, panel core material, and mounting method indicated. Include technical data and tested physical and performance properties.

B. Shop Drawings: For fabric-wrapped panels. Include mounting devices and details; details at panel head, base, joints, and corners; and details at ceiling, floor base, and wall intersections. Indicate panel facing and core materials.

1. Include elevations showing panel sizes, layout of panel joints, and direction of fabric weave and pattern matching.

2. Show intersections with wall base, doors, windows, and other adjacent work. Indicate operating ranges of doors and casework doors and drawers adjacent to fabric-wrapped panels. Include and coordinate the wall-mounted items with each other, using input from installers of the items involved, including the following:

a. Electrical receptacles and switches.

b. HVAC thermostats and temperature sensors.

c. Light fixtures.

d. HVAC air inlets and diffusers.

e. Speakers.

f. Fire alarm devices.

g. Access panels

C. Samples for Verification:

1. Fabric: Full-width by 36-inch long Sample of each fabric type from dye lot to be used for the Work, and as follows:

a. Show complete pattern repeats.

b. Mark top and face of fabric.

2. Mounting Device: Full-size sample.

3. Assembled Panel: For each type of fabric-wrapped panel facing material and core material, approximately 24 inches by 24 inches. Show edge profile, corner, typical joint, and mounting methods.

D. CALGreen Submittals:

1. Manufacturer’s product data for adhesives indicating compliance with product requirements specified in “CALGreen Requirements” Article.

1.8 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of fabric-wrapped panel, indicating compliance with specified performance requirements.

1.9 CLOSEOUT SUBMITTALS

A. Maintenance Data: For fabric-wrapped panels to include in maintenance manuals. Include fabric manufacturer's written cleaning and stain-removal recommendations.

1.10 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials from same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Fabric Facing: For each fabric, color, and pattern installed, provide length equal to 10 percent of amount installed, but no fewer than 10 yards.
   2. Mounting Devices: Full-size units equal to 5 percent of amount installed, but no fewer than five devices, including unopened adhesives.

1.11 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials, fabrication, and installation.
   1. Install mockup of typical wall area in location and of size indicated, or if not indicated, as directed by Architect. Include the following conditions:
      a. Typical joint between panels.
      b. Panel installation around door opening.
      c. Panel installation around window opening.
      d. Panel edge condition at abutting wall.
      e. Panel top edge (at ceiling) and bottom edge (at base).
      f. Outside corner.
      g. Inside corner
      h. Include intersection at wall and ceiling, corner, cabinets, and door opening.
   2. Approved mockup may be become part of the completed Work if undisturbed at time of Substantial Completion.
   3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

B. Installer Qualifications: An installer acceptable to fabric-wrapped panel manufacturer for installation of units required for this Project.

C. Fabric-Wrapped Panel Fabricator Qualifications: Shop with demonstrated experience in custom-fabricating products similar to those required for this Project, with a record of successful in-service performance, and which employs skilled workers qualified to perform such work.

1.12 DELIVERY, STORAGE, AND HANDLING

A. Comply with fabric-wrapped panel manufacturer's written instructions for minimum and maximum temperature and humidity requirements for shipment, storage, and handling.

B. Store materials and panels in a temperature-controlled dry place with adequate air circulation.

C. Stack panel materials flat to prevent sagging, and protect edges from crushing and impact.

1.13 FIELD CONDITIONS

A. Environmental Limitations: Do not install fabric-wrapped panels until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work at and above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Lighting: Do not install fabric-wrapped panels until a permanent level of lighting is provided on surfaces to receive fabric-wrapped panels.

C. Air-Quality Limitations: Protect fabric-wrapped panels from exposure to airborne odors, such as tobacco smoke, and install panels under conditions free from odor contamination of ambient air.

D. Field Measurements: Verify locations of fabric-wrapped panels and actual dimensions of openings and penetrations by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 CALGREEN REQUIREMENTS

A. General: Conform with all applicable requirements of the California Green Building Standards Code (CALGreen).

B. Provide adhesives which comply with current VOC content limits of the South Coast Air Quality Management District (SCAQMD) Rule 1168, except as noted otherwise below. Such products shall also comply with Rule 1168 prohibition of the use of certain toxic compounds (chloroform, ethylene, dichloride, methylene chloride, perchloroethylene, and trichloroethyelen).

1. Aerosol adhesives and similar unit sizes of adhesives, and sealants (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions of use of certain toxic compounds, of the California Code of Regulations, Title 17, commencing with Section 94507.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: Fabric facings and panel core materials shall comply with the following as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: Fabric facings and panel core materials shall comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    a. Textile Fabric Facing Material:
        i) Flame Spread Index: 25 or less.
        ii) Smoke Developed Index: 450 or less.
    b. Panel Core Material:
        i) Flame Spread Index: As indicated for each panel core type.
        ii) Smoke Developed Index: 450 or less.
2. Fire Growth Contribution: Fabric facing material shall meet the following criteria when tested in the manner intended for use in accordance with the Method B protocol of NFPA 265.
    a. During the 40 kW exposure, flames shall not spread to the ceiling.
    b. Flame shall not spread to the outer extremities of the samples on the 8-foot by 12-foot walls.
    c. Flashover, as described in NFPA 265, shall not occur.
    d. The total smoke released throughout the NFPA 265 test shall not exceed 1,000 sq meters.

2.3 FABRIC-WRAPPED PANELS

A. Fabric-Wrapped Panel: Manufacturer's standard panel construction consisting of fabric facing material laminated to front face, edges, and back edge border of core.

1. Manufacturers/Products: Subject to compliance with requirements, provide products by one of the following:
    a. MBI Products Company, Inc.
    b. Manufacturer of equal products in accordance with Division 1 requirements for product substitutions.
2. Mounting: As indicated for each panel core type.
3. Panel Dimensions:
    a. Width: As indicated on Drawings.
    b. Height: As indicated on Drawings.

B. Fabric Facing Material: Fabric from same dye lot.

1. Manufacturer: MBI Products Company, Inc.
    a. Color***[s]***: White.

2. Surface Finish: 2.5 mil PVC.
3. Fire-Test Response Characteristics: As specified in “Performance Requirements” Article.

C. Panel Core:
1. Acoustical: 1.65# Fiberglass.
a. Thickness: 2 inches.
b. Finish: 2.5 mil PVC
c. Density: 6 - 7 lbs per cu ft.
d. NRC:
i) 2-Inch Thickness: 1.15 minimum, per ASTM C 423 (for Type A mounting, per ASTM E 795).
e. Edge Profile: Heat Sealed.
f. Edge Shape: Square
g. Suspension: Grommet Flap, Eye Screws, Coated Wire Tie

2.4 ACCESSORIES

A. Adhesives for Fabric Facing Material: Provide adhesive, primer and sealer, produced expressly for use with selected facing material on panel core material indicated, and as recommended in writing by manufacturer of facing material.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for levelness, maximum moisture content, and other conditions affecting performance of work.

B. Verify that substrate surfaces are clean, dry, smooth, and structurally sound.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer’s written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall-covering, including mold, mildew, oil, grease, incompatible primers, dirt, and dust.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

D. Acclimatize panels by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 INSTALLATION – HANGING BAFFLES

A. General: Comply with fabric-wrapped panel manufacturer's written installation instructions.

B. Install panels in locations indicated with vertical surfaces and edges plumb, top edges level and in alignment with other panels, faces flush, and scribed to fit adjoining work accurately at borders and penetrations.

1. Use type of manufacturer's recommended concealed mounting method indicated for each panel core type. Mount panels securely to supporting substrate.

3.4 INSTALLATION TOLERANCES

A. Variation From Plumb and Level: Plus or minus 1/16 inch.

B. Variation of Panel Joints From Hairline: Not more than 1/16 inch wide.

3.5 ADJUST AND CLEAN

A. Remove excess adhesive at finished seams, perimeter edges, and adjacent surfaces.

B. Use cleaning methods recommended in writing by textile fabric facing material manufacturer.

1. Clip loose threads, and remove pills and extraneous materials.

C. Install hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items. Verify that cut edges of facing material are completely concealed.

3.6 PROTECTION

A. Provide protection methods and materials needed to ensure that fabric-wrapped panels will be without deterioration or damage at time of Substantial Completion.

B. Replace panels that cannot be cleaned and repaired in a manner approved by Architect.

END OF SECTION 09 77 26

SECTION 09 91 00

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes surface preparation and the field application of paint systems as specified in Paint Systems Schedules at the end of this Section.

1.3 REFERENCES

A. ASTM International:
   1. ASTM C 920: Standard Specification for Elastomeric Joint Sealants.
   2. ASTM D 523: Standard Test Method for Specular Gloss.

B. California Air Resources Board:
   1. Suggested Control Measure for Architectural Coatings.

C. California Department of Public Health (CDPH):
   1. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers – Version 1.1, February 2010.

D. Green Seal:
   1. Standard GS-11: Paints.

E. Master Painters Institute (MPI):
   1. MPI Architectural Painting Specification Manual.

F. Society for Protective Coatings (SSPC):
   1. SSPC-PA 1: Shop, Field, and Maintenance Painting of Steel.
   2. SSPC-SP 2: Hand Tool Cleaning.
   3. SSPC-SP 3: Power Tool Cleaning.

1.4 DEFINITIONS

A. VOC: Volatile Organic Compounds.

B. Gloss Levels: As follows, according to ASTM D 523:

1. Flat: Gloss Level 1 (not more than 5 units at 60 degrees and 10 units at 85 degrees).
2. Low-Sheen: Gloss Level 3 (10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees).
3. Semi-Gloss: Gloss Level 5 (35 to 70 units at 60 degrees).
4. Gloss: Gloss Level 6 (70 to 85 units at 60 degrees), unless indicated otherwise.

1.5 COORDINATION

A. Review other Sections of these Specifications in which prime paints are to be provided. Where requested by those trades performing Work in other Sections, provide information regarding paint products specified in this Section to ensure compatibility of overall painting system.
   1. Surface preparation, priming, and coats of paint specified in this Section are in addition to surface preparation and shop priming specified in other Sections of these Specifications.
   2. Where prime paints specified in other Sections of these Specifications are incompatible with prime or topcoats specified in this Section, provide barrier coats, or remove and reprime as required.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Indicate preparation requirements and application instructions.
   1. Indicate VOC content.

B. Samples for Initial Selection: For each type of topcoat product indicated, submit manufacturer's fan deck with full range of colors for selection by Architect.

C. Samples for Verification: For each type of paint system and each color and sheen of topcoat indicated.
   1. Submit Samples on rigid backing, 8 inches square.
   2. Apply coats on Samples in steps to show each coat required for system.
   3. Label each coat of each Sample.
   4. Label each Sample for location and application area.

D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

E. CALGreen Submittals:
   1. Manufacturer's product data for paints and coatings indicating compliance with product requirements specified in "CALGreen Requirements" Article.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials from the same product run (batch mix) as materials applied and that are packaged with protective covering for storage and identified with labels describing contents.

1. Quantity: Furnish an additional 5 percent, but not less than 1 gallon of each material and color applied.

1.8 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
    a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
    b. Other Items: Architect will designate items or areas required.
2. Final approval of color selections will be based on mockups.
    a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing.

B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F or as otherwise recommended in paint manufacturer's written instructions.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.10 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F or as otherwise stated in paint manufacturer's written instructions.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by manufacturers as indicated in Paint Systems Schedules at end of this Section.

1. Material Quality: Provide manufacturer's best quality (e.g. "Premium" quality) paint products for each paint system indicated.

2. Source Limitations: Provide primer and topcoat products as manufactured by a single manufacturer for each paint system as specified for a given substrate and sheen.

2.2 CALGREEN REQUIREMENTS

A. General: Conform with all applicable requirements of the California Green Building Standards Code (CALGreen).

B. Paints and Coatings: Provide paints and coatings that comply with VOC limits in Table 1 of the California Air Resources Board (ARB) Architectural Coatings Suggested Control Measure for Architectural Coatings, unless more stringent local limits apply.

2.3 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

B. Colors: As indicated at end of this Section.

2.4 ACCESSORY MATERIALS

A. Elastomeric Sealant: Single-component, non-sag, paintable joint sealant complying with ASTM C 920 Type S, Grade NS, Class 12.5.

2.5 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.

2. Testing agency will perform tests for compliance with product requirements.

3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with electronic moisture meter as follows:
   1. Concrete: 12 percent.
   2. Wood: 15 percent.
   3. Gypsum Board: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is dry and sanded smooth.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
   1. Beginning coating application constitutes acceptance of surfaces and conditions.

3.2 PREPARATION - GENERAL

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, machined surfaces, and similar items already in place that are removable and not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
   2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
   1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Unprimed Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer, but not less than the following:
   1. SSPC-SP 3.

F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as is used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

G. Galvanized Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

H. Aluminum Substrates: Remove loose surface oxidation.

I. Wood Substrates:
   1. Scrape and clean knots, before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for use in paint system indicated.
   2. Sand surfaces that will be exposed to view, and dust off.
   3. Prime edges, ends, faces, undersides, and backsides of wood immediately upon delivery to Project site.
   4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

J. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 PREPARATION - EXISTING PAINTED SURFACES

A. Interior:
   1. General: Mechanically clean surfaces to remove dirt, contaminants, rust scale, and loose and peeling paint.
      a. Dull glossy surfaces by sanding or chemical means for maximum adhesion.
      b. Remove mildew with a solution of one part household bleach to three parts water, as required to leave an uncontaminated, clean surface.

Where necessary, increase strength of solution and scrub with a soft bristle brush.

3.4 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as recommended in writing by paint manufacturer.
3. Paint surfaces behind movable items, including equipment and furniture, same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
4. Paint doors on tops, bottoms, side edges, and cutouts same as faces of door, unless otherwise indicated.
5. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
6. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where if feels firm, does not deform or feel sticky under moderate thumb pressure, and application of a subsequent coat does not cause lifting or loss of adhesion of the undercoat.
7. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to ensure a topcoat with no burn-through or other defects due to insufficient sealing.

B. Paint all exposed surfaces, regardless of whether designated in Color Schedule. The term "exposed surface" includes area visible when permanent or built-in fixtures, grilles, and similar components are in place. Extend coatings in these areas as required to maintain visual continuity and protection.

C. Do not paint the following prefinished items unless indicated otherwise:

1. Interior Prefinished Items: Do not paint prefinished interior items, including the following:
    a. Suspended acoustical ceiling panels and exposed grid.
    b. Applied acoustical ceiling and wall panels.
    c. Finish hardware.
    d. Plastic laminate-faced wood casework and other surfaces.
    e. Transparent finish wood casework.
    f. Signage.
    g. Mechanical and electrical equipment with factory-applied finish.
    h. Light fixtures.

2. Wood Surfaces with Transparent Finish: Do not paint surfaces of wood indicated to receive transparent finish.
3. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces in concealed areas and inaccessible areas not exposed to view.
4. Operating Parts: Do not paint moving parts of operating units, mechanical and electrical parts, such as valves, dampers, linkages, sensing devices, and motor and fan shafts.
5. Labels: Do not paint over labels, such as those indicating fire-ratings, or equipment identification, performance rating, or nomenclature plates.

D. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

E. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance. Give special attention to ensure that all surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

F. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

G. Painting Roof Accessories: Paint penetrations and other items on roofs which are exposed to view. Unless noted otherwise, paint color is to match that of surrounding roofing material. Roof items to receive paint include, but are not limited to the following:
1. Plumbing vent stacks.
2. Exhaust caps.
3. Roof hatches.
4. Flues.

H. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work: Paint items exposed in occupied spaces including, but not limited to, the following:
1. Mechanical Work:
    a. Exposed metal ductwork and supports, unless noted otherwise.
    b. Uninsulated metal piping.
    c. Uninsulated plastic piping.
    d. Pipe hangers and supports.
    e. Tanks that do not have factory-applied final finishes.
    f. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.

i) Paint with a flat black, non-specular paint.

g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

h. Wall and ceiling access panels.

i) Paint to match surrounding wall or ceiling surface, unless noted otherwise.

i. Air inlets and outlets.

i) Paint to match surrounding wall or ceiling surface, unless noted otherwise.

j. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

2. Electrical, Communication, and Electronic Safety and Security Work:

a. Switchgear without factory-applied final finish.

b. Panelboards.

c. Electrical equipment that is indicated to have a factory-primed finish for field painting.

d. Exposed conduits.

e. Enclosures and boxes.

3.5 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.

2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendation, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.6 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.7 INTERIOR PAINT SYSTEMS SCHEDULE – UNPAINTED SUBSTRATES

General: Subject to compliance with requirements, for each of the following interior unpainted substrate types and sheens, provide one of the listed paint systems or equal products in accordance with Division 1 requirements for product substitutions.

B. Concrete - Flat Sheen:
   1. Dunn-Edwards Paints:
      a. First Coat: ESPR00-1 EFF-STOP Premium Interior/Exterior Masonry Primer/Sealer
      b. Second Coat: SWLL10 SPARTAWALL Interior Flat Paint
      c. Third Coat: SWLL10 SPARTAWALL Interior Flat Paint
   2. Frazee Paint:
      a. First Coat: 065 Acry-Prime Interior/Exterior Acrylic Undercoater
      b. Second Coat: C115 UltraTech Interior Latex Flat Paint
      c. Third Coat: C115 UltraTech Interior Latex Flat Paint
   3. Kelly-Moore Paints:
      a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer
      b. Second Coat: 550 AcryPlex Latex Interior Flat Wall Paint
      c. Third Coat: 550 AcryPlex Latex Interior Flat Wall Paint

C. Concrete - Eggshell (Satin) Sheen:
   1. Dunn-Edwards Paints:
      a. First Coat: ESPR00-1 EFF-STOP Premium Interior/Exterior Masonry Primer/Sealer
      b. Second Coat: SPMA40 SUPREMA Interior Low Sheen Paint
      c. Third Coat: SPMA40 SUPREMA Interior Low Sheen Paint
   2. Frazee Paint:
      a. First Coat: 065 Acry-Prime Interior/Exterior Acrylic Undercoater
      b. Second Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel
      c. Third Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel
   3. Kelly-Moore Paints:
      a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer
      b. Second Coat: 1610 AcryPlex Interior Eggshell Enamel
      c. Third Coat: 1610 AcryPlex Interior Eggshell Enamel

D. Concrete - Semi-Gloss Sheen:
   1. Dunn-Edwards Paints:

a. First Coat: ESPR00-1 EFF-STOP Premium Interior/Exterior Masonry Primer/Sealer
b. Second Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
c. Third Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint

2. Frazee Paint:
a. First Coat: 065 Acry-Prime Interior/Exterior Acrylic Undercoater
b. Second Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
c. Third Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel

3. Kelly-Moore Paints:
a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer
b. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
c. Third Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

E. Gypsum Board - Flat Sheen:
1. Dunn-Edwards Paints:
a. First Coat: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
b. Second Coat: SPMA10-1 SUPREMA Interior Flat Paint
c. Third Coat: SPMA10-1 SUPREMA Interior Flat Paint

2. Frazee Paint:
a. First Coat: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
b. Second Coat: C115 UltraTech Interior Latex Flat Paint
c. Third Coat: C115 UltraTech Interior Latex Flat Paint

3. Kelly-Moore Paints:
a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer
b. Second Coat: 550 AcryPlex Latex Interior Flat Wall Paint
c. Third Coat: 550 AcryPlex Latex Interior Flat Wall Paint

F. Gypsum Board - Eggshell (Satin) Sheen:
1. Dunn-Edwards Paints:
a. First Coat: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
b. Second Coat: SPMA40 SUPREMA Interior Low Sheen Paint
c. Third Coat: SPMA40 SUPREMA Interior Low Sheen Paint

2. Frazee Paint:
a. First Coat: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
b. Second Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel
c. Third Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel

3. Kelly-Moore Paints:
a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer

b. Second Coat: 1610 AcryPlex Interior Eggshell Enamel
c. Third Coat: 1610 AcryPlex Interior Eggshell Enamel

G. Gypsum Board - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
a. First Coat: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
b. Second Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
c. Third Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
2. Frazee Paint:
a. First Coat: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
b. Second Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
c. Third Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
a. First Coat: 971 AcryPlex Interior PVA Primer/Sealer
b. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
c. Third Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

H. Wood Trim - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
a. First Coat: IKPR00-1 INTER-KOTE Premium Interior Undercoater
b. Second Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
c. Third Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
2. Frazee Paint:
a. First Coat: 168 Prime+Plus Interior/Exterior All-Purpose Primer & Stain Killer
b. Second Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
c. Third Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
a. First Coat: 973 AcryPlex Interior Enamel Undercoat
b. Second Coat: 1650 AcryPlex Acrylic Interior Semi-Gloss Enamel
c. Third Coat: 1650 AcryPlex Acrylic Interior Semi-Gloss Enamel

I. Wood Doors and Frames - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
a. First Coat: ULMS00 ULTRASHIELD Interior/Exterior Multi-Surface Primer
b. Second Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint

c. Third Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint

2. Frazee Paint:
   a. First Coat: 168 Prime+Plus Interior/Exterior All-Purpose Primer & Stain Killer
   b. Second Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
   c. Third Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
3. Kelly-Moore Paints:
   a. First Coat: 973 AcryPlex Interior Enamel Undercoat
   b. Second Coat: 1685 DuraPoxy Interior Semi-Gloss Enamel
   c. Third Coat: 1685 DuraPoxy Interior Semi-Gloss Enamel

J. Hollow-Metal Steel Doors and Frames (Shop-Primed), and Steel Railings - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
   a. First Coat: ULDM00-0-GR ULTRASHIELD Interior/Exterior DTM Gray Primer
   b. Second Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
   c. Third Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
2. Frazee Paint:
   a. First Coat: C309 UltraTech Universal Water-Based Metal Primer
   b. Second Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
   c. Third Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
3. Kelly-Moore Paints:
   a. First Coat: 5725 DTM Acrylic Primer/Finish
   b. Second Coat: 5885 DTM Acrylic Semi-Gloss Enamel
   c. Third Coat: 5885 DTM Acrylic Semi-Gloss Enamel

K. Shop-Primed and Unprimed Steel (Other Than Hollow-Metal Steel Doors and Frames, and Steel Railings) - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
   a. First Coat: BRPR00-2-WH BLOC-RUST Premium Interior/Exterior Rust Preventative Metal Primer
   b. Second Coat: EVSH50-2 EVERSHIELD Exterior/Interior Semi-Gloss Paint

c. Third Coat: EVSH50-2 EVERSHIELD Exterior/Interior Semi-Gloss Paint

2. Frazee Paint:
   a. First Coat: C309 UltraTech Universal Water-Based Metal Primer
   b. Second Coat: 124 Mirro Glide Interior/Exterior 100% Acrylic Semi-Gloss Enamel
   c. Third Coat: 124 Mirro Glide Interior/Exterior 100% Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
   a. First Coat: 5725 DTM Acrylic Primer/Finish
   b. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
   c. Third Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

L. Shop-Primed and Unprimed Steel (Other Than Hollow-Metal Steel Doors and Frames) - Gloss Sheen:
1. Dunn-Edwards Paints:
   a. First Coat: BRPR00-2-WH BLOC-RUST Premium Interior/Exterior Rust Preventative Metal Primer
   b. Second Coat: EVSH60-2 EVERSHIELD Exterior/Interior Gloss Paint
   c. Third Coat: EVSH60-2 EVERSHIELD Exterior/Interior Gloss Paint
2. Frazee Paint:
   a. First Coat: C309 UltraTech Universal Water-Based Metal Primer
   b. Second Coat: 143 Mirro Glide Interior/Exterior 100% Acrylic Gloss Enamel
   c. Third Coat: 143 Mirro Glide Interior/Exterior 100% Acrylic Gloss Enamel
3. Kelly-Moore Paints:
   a. First Coat: 5725 DTM Acrylic Primer/Finish
   b. Second Coat: 1680 DuraPoxy Acrylic Interior Gloss Enamel
   c. Third Coat: 1680 Dura-Poxy Acrylic Interior Gloss Enamel

3.8 INTERIOR PAINT SYSTEMS SCHEDULE - EXISTING PAINTED SUBSTRATES

A. General: Paint systems listed below are intended for application over interior substrates with existing paint coatings. Subject to compliance with requirements, for each of the following substrate types and sheens, provide one of the listed paint systems or equal products in accordance with Division 1 requirements for product substitutions.
1. Where spot priming is indicated, only those unpainted areas in which bare substrate is exposed are required to be primed.

B. Existing Painted Gypsum Board - Flat Sheen:

1. Dunn-Edwards Paints:
    a. Spot Prime: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
    b. First Coat: SPMA10-1 SUPREMA Interior Flat Paint
    c. Second Coat: SPMA10-1 SUPREMA Interior Flat Paint
2. Frazee Paint:
    a. Spot Prime: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
    b. First Coat: C115 UltraTech Interior Latex Flat Paint
    c. Second Coat: C115 UltraTech Interior Latex Flat Paint
3. Kelly-Moore Paints:
    a. Spot Prime: 971 AcryPlex Interior PVA Primer/Sealer
    b. First Coat: 550 AcryPlex Latex Interior Flat Wall Paint
    c. Second Coat: 550 AcryPlex Latex Interior Flat Wall Paint

C. Existing Painted Gypsum Board - Eggshell (Satin) Sheen:
1. Dunn-Edwards Paints:
    a. Spot Prime: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
    b. First Coat: SPMA40 SUPREMA Interior Low Sheen Paint
    c. Second Coat: SPMA40 SUPREMA Interior Low Sheen Paint
2. Frazee Paint:
    a. Spot Prime: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
    b. First Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel
    c. Second Coat: 125 Endurable Interior/Exterior Acrylic Low Sheen Enamel
3. Kelly-Moore Paints:
    a. Spot Prime: 971 AcryPlex Interior PVA Primer/Sealer
    b. First Coat: 1610 AcryPlex Interior Eggshell Enamel
    c. Second Coat: 1610 AcryPlex Interior Eggshell Enamel

D. Existing Painted Gypsum Board - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
    a. Spot Prime: VNPR00-1 VINYLASTIC Premium Interior Wall Sealer
    b. First Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
    c. Second Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
2. Frazee Paint:
    a. Spot Prime: C152 UltraTech Interior Latex Multi-Solution Primer/Sealer
    b. First Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
    c. Second Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
    a. Spot Prime: 971 AcryPlex Interior PVA Primer/Sealer

b. First Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
c. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

E. Existing Painted Wood Trim - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
a. Spot Prime: IKPR00-1 INTER-KOTE Premium Interior Undercoater
b. First Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
c. Second Coat: SPMA50 SUPREMA Interior Semi-Gloss Paint
2. Frazee Paint:
a. Spot Prime: 168 Prime+Plus Interior/Exterior All-Purpose Primer & Stain Killer
b. First Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
c. Second Coat: 131 Endurable Interior/Exterior Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
a. Spot Prime: 973 AcryPlex Interior Enamel Undercoat
b. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
c. Third Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

F. Existing Painted Wood Doors and Frames - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
a. Spot Prime: ULMS00 ULTRASHIELD Interior/Exterior Multi-Surface Primer
b. First Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
c. Second Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
2. Frazee Paint:
a. Spot Prime: 168 Prime+Plus Interior/Exterior All-Purpose Primer & Stain Killer
b. First Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
c. Second Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
3. Kelly-Moore Paints:
a. Spot Prime: 973 AcryPlex Interior Enamel Undercoat
b. First Coat: 1685 DuraPoxy Interior Semi-Gloss Enamel
c. Second Coat: 1685 DuraPoxy Interior Semi-Gloss Enamel

G. Existing Painted Hollow-Metal Steel Doors and Frames, and Steel Railings - Semi-Gloss Sheen:

1. Dunn-Edwards Paints:
    a. Spot Prime: ULDM00-0-GR ULTRASHIELD Interior/Exterior DTM Gray Primer
    b. First Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
    c. Second Coat: ULDM50 ULTRASHIELD Interior/Exterior DTM Semi-Gloss Paint
2. Frazee Paint:
    a. Spot Prime: C309 UltraTech Universal Water-Based Metal Primer
    b. First Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
    c. Second Coat: 520 DTM Semi-Gloss Interior/Exterior Industrial Maintenance Acrylic Semi-Gloss Paint
3. Kelly-Moore Paints:
    a. Spot Prime: 5725 DTM Acrylic Primer/Finish
    b. Second Coat: 5885 DTM Acrylic Semi-Gloss Enamel
    c. Third Coat: 5885 DTM Acrylic Semi-Gloss Enamel

H. Existing Painted Steel (Other Than Hollow-Metal Steel Doors and Frames and Steel Railings) - Semi-Gloss Sheen:
1. Dunn-Edwards Paints:
    a. Spot Prime: UGPR00-1 ULTRA-GRIP Premium Interior/Exterior Multi-Surface Primer
    b. First Coat: EVSH50-2 EVERSHIELD Exterior/Interior Semi-Gloss Paint
    c. Second Coat: EVSH50-2 EVERSHIELD Exterior/Interior Semi-Gloss Paint
2. Frazee Paint:
    a. Spot Prime: C309 UltraTech Universal Water-Based Metal Primer
    b. First Coat: 124 Mirro Glide Interior/Exterior 100% Acrylic Semi-Gloss Enamel
    c. Second Coat: 124 Mirro Glide Interior/Exterior 100% Acrylic Semi-Gloss Enamel
3. Kelly-Moore Paints:
    a. Spot Prime 5725 DTM Acrylic Primer/Finish
    b. First Coat: 1650 AcryPlex Interior Semi-Gloss Enamel
    c. Second Coat: 1650 AcryPlex Interior Semi-Gloss Enamel

I. Existing Painted Steel (Other Than Hollow-Metal Steel Doors and Frames) - Gloss Sheen:
1. Dunn-Edwards Paints:

a. Spot Prime: UGPR00-1 ULTRA-GRIP Premium Interior/Exterior Multi-Surface Primer
b. First Coat: EVSH60-2 EVERSHIELD Exterior/Interior Gloss Paint
c. Second Coat: EVSH60-2 EVERSHIELD Exterior/Interior Gloss Paint

2. Frazee Paint:
a. Spot Prime: C309 UltraTech Universal Water-Based Metal Primer
b. First Coat: 143 Mirro Glide Interior/Exterior 100% Acrylic Gloss Enamel
c. Second Coat: 143 Mirro Glide Interior/Exterior 100% Acrylic Gloss Enamel

3. Kelly-Moore Paints:
a. Spot Prime: 5725 DTM Acrylic Primer/Finish
b. First Coat: 1680 DuraPoxy Interior Gloss Enamel
c. Second Coat: 1680 DuraPoxy Interior Gloss Enamel

3.9 PAINT COLOR/SHEEN SCHEDULE

A. Paint Color/Sheen Schedule: Paint surfaces listed below as per Paint Systems Schedules in the following colors and sheens:
1. Interior:
a. Gypsum Board, Typical Except As Noted Otherwise Below: P-1 (eggshell).
b. Wood – Structural Beams: Typical: P-1 (eggshell).
c. Existing Ceiling Acoustical Panels (Tectum): P-2 (eggshell).
d. New Exposed Conduit or Cabling: To match adjacent surface – either P-1 or P-2.

2. Color:
a. P-1: KMW47-1: Kelly Moore: Broken White.
b. P-2: Kelly Moore: To match existing painted acoustical panels.

END OF SECTION 09 91 00

SECTION 27 4116 – AUDIOVISUAL SYSTEMS

PART 1 - GENERAL

1.01 REQUIREMENTS

Contractor shall review all other documents for additional requirements and information that apply to the Work. If conflicts between this Section and/or the General Requirements and General Conditions occur, the more stringent shall apply. Contractor shall deliver the complete Audiovisual System, including any design-build requirements of this Section and the following Drawings:

TA.0.01	Sheet Index and Notes
TA.1.01	AV Floor Plan
TA.2.01	AV Reflected Ceiling Plan
TA.3.01	Sections and Elevations
TA.4.01	Functionals
TA.5.01	Rack Elevations and Details

1.02 PROJECT DESCRIPTION

A. The following is a room-by-room summary of the audiovisual system requirements.

B. Bleacher Audio
1. Multiple column array loudspeakers will be mounted facing the bleachers on both sides. These loudspeakers will be tightly pattern controlled in order to maximize audio levels on the audience while minimizing reflections off of the gymnasium walls and other surfaces. For events where the bleachers are not in use these loudspeakers may be turned off in order to avoid excess audio within the space. Bleacher loudspeakers will be individually zoned per side.

C. Court Audio
1. The gymnasium floor will be covered by a set of main loudspeakers that will provide full coverage to all areas, including the team benches. These speakers will be aimed directly down to avoid interaction with the walls and provide maximum sound levels for on-court players or other activities. Additionally, the main loudspeakers will provide extended low-frequency range for the space to enhance music playback. A secondary audio input will be included for the scorer's table location to allow live music playback from a laptop or other source during games/events.

D. Control System
1. The audio system will be operated by a simple to use control system. The main control panel will be located in the equipment rack room. The control system will perform the following functions:
   a. Select audio sources
   b. Control audio levels

1.03 SCOPE OF WORK

A. Contractor shall provide a turn-key audiovisual system installation including, but not limited to, all cabling, loudspeakers, projection & display equipment, mounting hardware and electrical components including the necessary equipment, interconnections, transducers, labor, and services required to meet the functional requirement outlined in the design documents.

B. The Contractor will be held responsible to have examined the site and premises and satisfied them self as to existing conditions under which they will be obligated to operate in performing their part of the work or that, which will in any manner affect the work under this contract.

C. Permits: Obtain any necessary permits for the execution of this work in conformance with applicable union regulations, local, State and Federal codes and regulations.

D. All aesthetic issues are to be coordinated and approved by the Owner, Architect, and Design Consultant.

E. Provide, size, and install all conduit and penetrations, wire raceways, back boxes, and cabling connecting system components, as required by the Audiovisual System, not installed by the General Contractor.

F. Verify all conduit and penetrations, wire raceways, back boxes, mounting hardware to building structure, and cabling connecting system components, as required by the Audiovisual System and installed by the General Contractor/Electrical Contractor as part of the base building fit out. Notify Owner of any discrepancies that may exist between the Shell Contract Documents and existing conditions.

G. Verify AC power requirements for each equipment location. Notify Owner of any discrepancies that may exist between Shell Contract Documents and existing conditions.

H. Patch, repair, finish and paint any surfaces that are damaged or demolished for access during this work. Room finishes to be returned to initial condition.

I. Coordinate the resolution of any audiovisual system issues including, but not limited to, architectural and structural items associated with the project.

J. Coordinate with other trades to ensure that all required access and clearances to equipment and services are provided and maintained.

K. Verify site conditions including dimensions and clearances. Coordinate and size the exact location of the equipment racks with the architectural drawings.

L. Conduct preliminary testing and adjustment. Submit documentation required by this Specification. Participate in approval testing for acceptance by the Owner. Perform final adjustments as required to meet the Specifications.

M. Deliver to the Owner, bound "as-built" system documentation. Transfer all warranties and equipment guarantees to the Owner and provide a written description of system operation at the time of acceptance of the Work by the Architect/Owner.

N. Provide system operation training as specified in Part 3 of this Section.

1.04 QUALITY ASSURANCE

A. All materials must be newly manufactured current production models and conform to all applicable codes and the relevant standards listed below:
   1. American National Standards Institute (ANSI)
   2. Electronic Industries Alliance (EIA)
   3. Institute of Electrical and Electronic Engineers (IEEE)

B. Experience: The Contractor shall specialize in the installation of audiovisual systems, have a minimum of five years of documented experience in the field of audiovisual system installation and be a manufacturer approved vendor for all of the components installed.

C. Supervision: Contractor shall designate a Project Manager and Foreman to oversee the installation work for the duration of the Work, to ensure that the system is installed in accordance with the Specification and Drawings.
   1. Project Manager shall maintain adequate staff and be responsible for installing and testing the system on schedule.
   2. Project Manager and Foreman/Project Supervisor shall have at least five years of documented, recent and similar project experience.

D. The Owner reserves the right to make use of the system prior to the completion of the Work. Temporary use of the equipment shall not constitute an acceptance of the system or any part. The Owner shall not pay additional cost to the Contractor and the commencement of the warranty period shall not begin for the system, or any device prior to the completion of the punch list and final acceptance of the system, by the Owner.

E. Contractor shall promptly notify the Owner, in writing, of any site difficulties that may prevent proper coordination or timely completion of the Work. Failure to do so shall constitute acceptance of Work and indicate that the site is suitable in all ways for this Work, except for defects that may develop in the work of others after commencement of system installation.

F. Insurance: Provide evidence of insurance for the full value of equipment and material located on-site. Insurance shall cover losses due to fire, theft and vandalism, until the final acceptance of the system, by the Owner. Maintain additional liability insurance to protect the supplier and/or Owner, Architect, Design Consultant against damage claims for personal injury, including death, which may arise during the performance of this work.

G. The Lead Control System and Audio/Video Digital Processing Programmers in the office and in the field shall be certified as defined by the project's equipment manufacturer.

1.05 REFERENCES

A. All requirements of the latest published edition, unless otherwise noted, shall apply.

B. National Electric Code (N.E.C.).

C. National Electric Safety Code (N.E.S.C.).

D. Davis, Don, Sound System Engineering, Second Edition, Howard W. Sams and Co., Indianapolis, Indiana, 1997.

E. American National Standards Institute (A.N.S.I.).

F. Electronics Industries Alliance (E.I.A.).

G. Audio - Design and Installation, Giddings, Howard W. Sams, 1990.

H. Society of Motion Picture and Television Engineers (S.M.P.T.E.).

I. American Society for Testing Materials (A.S.T.M.).

J. Advanced Dante Configuration, Audinate 2015

K. AVB Systems (IEEE 802.1BA)

L. Dashboard for Controls (AVIXA).

M. Audio Coverage Uniformity (AVIXA A102.01:2017)

N. Projected Image System Contrast Ratio (AVIXA 2M-2010)

O. Cable Labeling for Audiovisual Systems (AVIXA F501.01:2015)

1.06 SUBMITTALS

A. Contractor shall comply with the General Requirements and General Conditions of this Specification.

B. Bid Submittals: Contractor shall submit the following qualification documents with the bid proposal:
   1. Firm description of the Contractor, and a copy of the Contractor's license, as well as a statement regarding the relationship of the License Holder to the Contractor.
   2. Provide a minimum of ten related projects, four of which must have been completed within the last 12 months.

3. Résumé of Project Manager and onsite Foreman/Project Supervisor documenting related experience. Foreman/Project Supervisor must have completed at least two similar installations in the past 12 months. Indicate any certifications held by the Project Manger and onsite Foreman/Project Supervisor such as PMP/CTS-I or other.
4. Project Manager and Foreman/Project Supervisor cannot be changed without approval of Owner.
5. Submit a list of major equipment components, along with any deviations, to the system design and Specification. Indicate which products will not be purchased directly from the manufacturer.
6. Submit a list including names, firm description, job foreman, copy of license and scope of work, for any subcontractors whose work would be part of this Contract.
7. Submit a list of names for the lead installers who will be working on this project and indicate for each, if they are NSCA NICET/EST or ICIA CTS-Install, certified or registered.

C. Construction Submittals
1. Provide shop drawings and record drawings using the following scales:
   a. Plans - not less than 1/8" = 1'-0"
   b. Details - not less than 1/4" = 1'-0"
2. Before ordering equipment, submit catalog data sheets, neatly bound with title page, space for submittal stamps and tabbed dividers between sections. List all proposed equipment with reference to corresponding specification paragraph numbers or equipment title. Denote all approved substitutions.
   a. Data sheets may also be delivered in a single flattened PDF format file if physical delivery is not practical.
   b. PDF shall have an index page with check boxes for approval as well as bookmarks for each data sheet.
3. Submit point-to-point wiring diagrams and typed wire lists identifying every connection. Include electronic devices such as switches, transformers and terminal blocks. Indicate location of all components. Identify cables by types, colors and wire numbers. Diagrams must be original documents; replication of any bid documents is not acceptable.
4. Submit system plans showing coordinated device locations with other building systems.
5. Distributed loudspeaker layouts to show wattage tap settings, projection systems, cameras and other ceiling mounted devices.
6. Submit conduit riser diagrams showing connection of all devices along with types and quantities of cables to be used and cable identification tags.
7. Submit rack layouts indicating the proposed arrangement of mounted equipment including junction boxes and locations of conduit penetrations.
8. Submit fully dimensioned construction details of all panels, plates and other custom fabricated items or modifications (e.g. installation of audio/visual equipment in lecterns). Include complete parts lists and, as required, schematic diagrams.
9. Submit fully dimensioned construction details of all coordination items, such as panel or plate installation in casework or millwork as needed to complete the Work.

10. Submit a schedule of finishes indicating proposed materials and color selections for all exposed items subject to Architect's approval.
11. Submit samples of engraved labels, cable-marking system, faceplate etching/finishes and loudspeaker grilles.
12. Submit mounting and support details for loudspeakers, video projectors, monitors, and all other items mounted overhead, complete with parts lists and dimensions. Include a full plan view, front elevation and side elevation of each item, with corresponding support structure and mounting hardware. Verify load ratings of all hanging components including attachment hardware. A structural engineer registered in the State shall stamp details.
13. Submit a list showing coordination of selected frequencies for all wireless transmitters.
14. Submit an Excel list showing all equipment requiring data connections. At a minimum identify the following fields, Location, Description, MAC address, Jack number, IP Address, Subnet Mask, Gateway, DNS. Submit list with first three items completed for submittal review, include jack number as well if available. Include items on client LAN as well as AV LAN. Once approved, provide client LAN list to owner's networking group to obtain IP information. Maintain list throughout project and provide final list with as-built documents.
15. Before final control system program installation, submit interactive demonstrations of all control system touch panel pages as well as an electronic copy of the pages as required by Part 2 of this Section.

D. Acceptance Test Submittals: Prior to requesting the completion of the acceptance tests, submit Preliminary Test Report Information required in Part 3 of this Section.

1.07 PROJECT CLOSE OUT

A. The project is not complete until all close out documents have been accepted by the owner.

B. General
1. Furnish one initial set of Project Close Out Documents including but not limited to manuals, record drawings along with the results of all source quality control tests, and field quality control tests specified in Part 3 of this Section, to the Design Consultant, for use during acceptance testing.
2. If 'as installed' documents are rejected, correct and resubmit in the manner specified.
3. One set of B size drawings showing the components and wiring in each individual rack shall be mounted in a plastic jacket to the rear door of the associated rack.
4. After approval of 'as installed' documents, submit sets of record drawings as follows:
   a. One set of full size prints
   b. One set of reduced B size prints
   c. One set of manuals
   d. Four electronic submittals on bookmarked CD-ROM/DVD disk(s).

5. At the time of contract closeout, submit sets of the system Operation Manual and the Maintenance Data Manual as follows:
   a. One set hardcopy for owner.
   b. Four sets electronic on bookmarked CD-ROM/DVD disk(s).

C. Manuals
1. Neatly bind each manual with tabbed dividers between sections, include a title pages between sections, binder title covers and spines.
2. Manuals shall be presented in 3 ring – D style binders.
3. The Manuals shall be broken down into the following minimum sections:
4. Operations Manual
   a. Table of Contents
   b. Typed description of each system including key features and operational concepts (e.g. remote control features, switching or routing functions, patch points, mixing and linking capabilities).
   c. Setup diagrams and typed instructions for use in typical situations as directed by the Design Consultant.
   d. Single-line block diagrams showing all major system components.
   e. One set of B size drawings showing the components and wiring in each individual rack.
   f. Manufacturer's operation manuals for equipment intended for operation by system users (e.g. source equipment, communication equipment, etc).
   g. Manual must be an original document created by the Contractor. Replication of bid documents is not acceptable.

5. Maintenance Data Manual
   a. Table of Contents
   b. Company name, address, telephone number and contact name for system service or maintenance.
   c. Listing of all equipment and materials with names of manufacturers and model numbers or part numbers.
   d. Catalog data sheets displaying manufacturer's names, addresses and telephone numbers.
   e. Product manufacturer's warranties and a typed, one-year system warranty, explicitly covering all materials and labor.
   f. Manufacturer's service manuals for all major equipment items.
   g. Test documentation showing results of source quality control tests, field quality control tests, acceptance testing and equalization.
   h. Document final settings for all non-user devices and controls after completion of acceptance testing and equalization, including raw and equalized house curves.
   i. Document the physical position of settings as well as input and output signal levels as required by Part 3 of this Section.
   j. Provide a recommended preventative maintenance schedule for reference to the applicable pages in the manufacturer's maintenance manuals. Where the manufacturer provides inadequate information, develop and provide the information necessary for proper maintenance.

D. Software
1. A properly licensed working copy of any and all software required to operate or configure the systems specified herein, shall be a part of the system supplied, including all software, firmware and hardware required for configuration, adjustment, diagnosis and repair.
2. All software shall be fully documented, and that documentation included.
3. Software shall be included in its 'installable' state on industry standard, CD-ROM/DVD, or other appropriate format from the manufacturer. Where possible a single master CD-ROM/DVD should be provided. If files are too large, break segments into logical sections, CD-ROM/DVD disk images are unacceptable.
4. Where any elements of the software are based on user modifiable source code, both the source code and the compiler shall be provided and documented as stated herein.
   a. The source code is to be licensed to the Owner for this project; the contractor maintains the copyright of the source code.
   b. The Owner has the right to modify the source code.
   c. If the source code is modified the Owner takes full responsibly for the effects caused by the modification to the source code.

E. Electronic Submittal: In addition to the above listed hard copy submittals, submit all files necessary to produce the above submittals as follows:
1. Submit the following on CD-ROM/DVD media.
   a. Files use long windows names file structure.
   b. A bookmarked Disk Master File List in text format shall be placed on the CD-ROM/DVD with a short description of files on that disk.
2. Drawings shall be in AutoCAD r2000 or later drawing (.DWG) format. Drawing Exchange File Format (.DXF) shall not be acceptable. All XREFs, fonts, and other drawing parts necessary to the drawings shall be included.
3. Documents and spreadsheets shall be in Microsoft Office .docx/.xlsx format.
4. All files to be converted to searchable acrobat *.PDF files in addition to the native drawing, documents and spreadsheets formats.
5 Manufacturers' service manuals provided by the Manufacturer to the Contractor or documents that are similarly, not otherwise available to the Contractor in electronic format shall be excluded from this requirement.
6. Provide all control system source files and compilers on the same CD-ROM/DVD media. This should include, but is not limited to, touch panel files, IR code files, DSP configuration files, web-based touch panel pages, or any other files or applications necessary to completely reinstall and configure all system components back to their operable state.

F. Keys: Submit five sets of all keys required for access to and operation of the systems.

1.08 GUARANTEES AND WARRANTIES

A. Transfer all manufacturer and subcontractor's warranties to the Owner at the completion of all Work.

B. Guarantee all installation work to be free of faulty system-wide workmanship. Guarantee all new components purchased under this Contract and workmanship to be free from defects for a period of 12 months from the completion date, per the Owner.

C. Guarantee a response window of 2 hours for call-back phone support upon notification from the owner of a system operational issue during the warranty period.

D. Guarantee the on-site replacement of faulty materials and workmanship within 24 hours of notification at no cost to the Owner if failure occurs during warranty period. Provide loaner equipment as required to keep the system operational if the system cannot be repaired within 24 hours of notification.

E. Register warranty in the Owner's name for any product with a manufacturer's warranty of more than one year.

1.09 OWNER FURNISHED EQUIPMENT

A. Certain equipment may be identified as Owner Furnished Equipment (OFE). This OFE may presently be part of the Owner's systems or will be provided by the Owner, and will be delivered to the Contractor's off-site construction facility, delivered to the Contractor's on-site secured storage area or installed on site by others, as appropriate, for incorporation into the system.

B. Clean and inspect the OFE, and notify the Owner in writing of damage or defect and the extent of repair and/or adjustment required to bring the OFE to original specification. Service OFE only as directed by the Owner under the arrangements of a separate contract.

C. Incorporate into the system as if provided new, excepting warranty coverage.

1.10 MAINTENANCE

With the bid, submit an annually renewable service and maintenance proposal for a total of two additional years meeting the same conditions for service and repair as required for the initial one-year warranty. If accepted, the service and maintenance proposal shall commence upon conclusion of the one-year system warranty.

PART 2 - PRODUCTS

2.01 GENERAL

A. Components are to operate on standard US voltage outlets. Rack mounted equipment is to be mounted in a standard EIA 19-inch wide rack. The components listed in the equipment schedule are the basis of the audiovisual system design and represent the minimum standards for each of the components. All of the properties of each component or system should be considered listed in full.

B. Equipment, excepting the Owner Furnished Equipment (OFE), and materials shall be new. The latest version at time of delivery and shall conform to applicable UL, CSA, or ANSI provisions. Take care during installation to prevent scratches, dents, chips, etc.; equipment with significant or disfiguring cosmetic flaws will be rejected.

2.02 CABLE

A. General
1. Conductor jackets shall be color-coded to enable consistent polarity.
2. Use plenum rated cable where required by code.
3. Cables noted are referenced for minimum level of quality.
4. Use outdoor rated cables where required. Size may vary depending on distance requirements.
5. Acceptable Manufacturers: West Penn, Canare, Belden, Extron, Covid, Gepco, and Liberty.

B. Audio Cables
1. Microphone: Shielded, stranded 20 AWG, twisted-pair cable (West Penn 292)
2. Line Level Cable: Shielded, stranded 20 AWG, twisted-pair cable (West Penn 292)
3. Program Loudspeaker Cable: Stranded, twisted-pair 12 AWG cable (West Penn 227)
4. Distributed Loudspeaker Cable: Stranded, twisted-pair 16 AWG cable (West Penn 225)
5. UHF Wireless Antenna Cable: 50 ohm, (RG-58) coaxial cable (RG-58) (Belden 8259)
6. Digital Audio Transport Cable: 4 pair Category 6 Solid Twisted Pair cable, 24 AWG. (West Penn 4246)

C. Video Cables
1. MATV Drop Cable: 75 ohm RG 6U co-axial cable (West Penn 256350)
2. MATV Trunk Cable: 75 ohm RG 11U co-axial cable (West Penn 25811)
3. High Resolution Cable DVI (Single-link): 100-ohm multiple conductor cable in one jacket (Extron DVID SL Pro Series)
4. High Resolution Cable DVI (Dual-link): 100-ohm multiple conductor cable in one jacket (Extron DVID DL Pro Series)
5. High Resolution Cable HDMI: 100-ohm multiple conductor cable in one jacket, 18Gbps data rate (Extron HDMI Pro/Ultra Series)
6. Digital Media Transport Cable: 4 pair Category 6A (S)F/UTP cable, 24 AWG, 500MHz bandwidth. (Belden 10Gx series/Extron XTP DTP-24)
7. HDMI Bulk Cable: 100-ohm multiple conductor cable in one jacket, 28 AWG. (Covid LUX-HD-28RD)
8. HD/3G/6G-SDI Cable: Low loss serial digital co-axial cable RG-6/RG-11 (Belden 1695A/7732A)

D. Data / Control Cables
1. Control System Cable: 2 pair (18 AWG pair and 22 AWG pair) (Liberty AXLINK)

2. Data cable: 4 pair Category 6A F/UTP solid twisted pair cable. (West Penn 254246AF)
3. RS-485 cable: 7-conductor, 22 AWG cable. (Belden 9430)
4. RS-232 cable: 7-conductor, 22 AWG cable. (Belden 9430)
5. 5 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9807)
6. 9 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9809)
7. 12 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9812)
8. USB Revision 2.0 Compliant Bulk Cable: Two 24 AWG power conductors plus one 28 AWG twisted pair for data lines (L-com CBL-USB2-2824)

E. Multimode Optical Fiber Cable
1. All multimode optical fiber cable must be OM4 rated and strands must have an outside cladding diameter of 125 micrometers and an inside core diameter of 50 micrometers with a dual operational wavelength of 850 nanometers and 1300 nanometers.
2. All multimode optical fiber cables shall be OM4 OFNP-rated, and all cable jackets shall have the OM4 standard aqua coloring, that is constructed with a dielectric armor for protection, unless otherwise noted.
3. Multimode Optical Fiber Cable Manufacturer and System Description:
   a. Corning MIC Armored Cable System
   b. CommScope Cable System
   c. BerkTek Cable System

F. Singlemode Optical Fiber Cable
1. All singlemode optical fiber cable must have industry standard outside cladding diameter of 125 micrometers and an inside core diameter between 8 and 9 micrometers with a dual operational wavelength of 1310 nanometers and 1550 nanometers.
2. All singlemode optical fiber cable shall be OS2 OFNP-rated, have the industry standard yellow jacket, and be constructed with a dielectric armor for protection, unless otherwise noted.
3. Singlemode Optical Cable Manufacturer and System Description:
   a. Corning MIC Armored Cable System
   b. CommScope Cable System
   c. BerkTek Cable System

G. Category-6 Copper Patch Cords
1. All patch cords are to be shipped pre-assembled, verified and tested from the factory in sealed packages.
2. All copper patch cords shall have stranded conductors that match the TIA/EIA-568-B performance characteristics of the solid conductor category-6 cable specified.

H. Multimode Optical Fiber Patch Cords
1. All multimode optical fiber patch cords must be LC type cords or combinations as required.
2. All fiber patch cords shall match the performance characteristics of the premise fiber cable specified.

2.03 HARDWARE

A. Jacks, Connectors, and Adapters
   1. Provide panel mounted isolated ground jacks.
   2. Contacts are to be silver-plated, chromate dipped, phosphor bronze, or brass.
   3. Install connector and jacks per manufacturer's directions.
   4. Panel mounted jacks are to be recessed.
   5. Acceptable Manufacturers: Canare, Switchcraft, Neutrik, Amphenol, Pomona, Extron, Covid, L-com, or Liberty.
   6. HDMI Type A connector: 28 AWG DIY connector/clamshell for round cable (Covid LUX-DIY-28DS10).
   7. USB Type A connector with hood: gold-plated solder contacts, nickel-plated steel shell, and UL94V-0 rated housing (L-com USBCN2.0-A, USBHD2.0-A).
   8. USB Type B connector with hood: gold-plated solder contacts, nickel-plated steel shell, and UL94V-0 rated housing (L-com USBCN2.0-B, USBHD2.0-B).
   9. Category 6 Shielded Keystone Style Jacks and plugs

B. Audiovisual System Face Plates: Provide metallic cover plates at all control, switching and jack locations. Etch and ink all system faceplates to indicate function, input/output number, etc. Minimum engraved letter height 1/8 inch. Coordinate finish with the Owner. Center lettering vertically OVER or horizontally to the right of the appropriate connector. Connector mounting shall allow sufficient finger clearance for connector insertion and removal without interference from adjacent connectors.

C. Electronic Component Face Plate Labels: Provide permanent labels as specified and shown on detail drawings. Engraved plastic labels fastened with epoxy are acceptable. Dymo type labels are not acceptable.

D. Provide a neatly labeled floor plan with as-built locations of all audiovisual jacks. Locate floor plan in front cover of the equipment rack behind a clear Plexiglass cover. Minimum size of chart: 8-1/2 inches x 11 inches.

E. Provide system functional description and operating procedures for each system configuration. Place behind clear Plexiglass near each of the equipment racks. Include basic operating procedures and troubleshooting steps.

F. Provide a 1-rack unit panel as shown in bid drawings with Consultant's name and web address and Contractor's name, address and phone number in the main equipment rack of each system. Panel shall state: Designed by "Consultant" Installed by "Contractor".

2.04 RACK SYSTEMS

A. All audiovisual racks on the project are to be welded and from one manufacturer.

B. Racks are to be rated for the Uniform Building Code Seismic zone 4.

C. Racks and rack accessories are to be black in color.

D. Rackplates: All custom rack plates are to be fabricated from 16 Gauge Aluminum with flange returns. All rack blanks and vents are to have flanges.

E. Racks are to have moveable rear rack rails; all rack rails are to be tapped for 10/32 machine screws

F. Provide vertical and horizontal wire management products to secure and manage cables.

K. Racks are to have a modular top option with different knockouts and openings as required by the design documents.

L. Front and rear vented locking doors are required for all racks not directly secured by casework or other architectural door system.

M. Provide security covers on non-user operated equipment having front panel controls. Install covers at the conclusion of Acceptance Testing. Rack slides shall be provided for all equipment requiring access to side or top panels for routine adjustment or cleaning.

N. Provide rack slides and mounts equal to those of the original manufacturer for the OFE requiring rack mounting. Where no same manufacturer mount is available, Contractor shall supply custom mounts as manufactured by Middle Atlantic Products Inc.

2.05 RACK POWER

A. All power serving the audiovisual systems should be from the same subpanel that is transformer isolated from all other building loads.

B. All audiovisual circuits must have their own neutral (shared neutrals do not work for audiovisual systems).

C. The ground wire should be at least a 10-gauge wire. An effort should be made to eliminate possible grounding problems with equipment. Interference from electric motors, HVAC equipment, or lighting loads should be taken into account when providing power for AV equipment.

D. Equipment rack will require (2) 120VAC-20A circuits.

E. Provide switched and constant voltage power strips as specified.

F. Provide UPS redundant power for all core signal processing or controlling devices.
   1. UPS units shall be sized for a minimum of 3 minutes of battery operation of the connected devices.

2.06 PROGRAMMING

A. Contractor shall provide all touch screen and control system programming to make fully functional and working systems.

B. Contractor shall provide all audio and video system programming required to meet the performance requirements outlined in this document.

PART 3 - EXECUTION

3.01 GENERAL

The following is required for acceptance of the audiovisual system by the Owner:

A. Install complete and functioning audiovisual system.

B. Label equipment and cables corresponding to functional diagram.

C. Conduct adjustments and preliminary testing.

D. Report results of preliminary testing along with system documentation.

E. Participate in acceptance test and deliver final system and documentation.

F. Conduct any adjustments or re-testing required to meet the performance specifications.

G. Provide training to an individual(s) designated by the Owner/Architect/Consultant.

3.02 AUDIOVISUAL OPERATIONAL REQUIREMENTS

Care shall be taken to eliminate electro-magnetic radio frequency and electro-static interference; the system shall be free of audible hum, rattles, buzzing sounds, distortion and visible hum bars or distortion.

3.03 SYSTEM CONTROL PROGRAMMING

A. The contractor shall closely collaborate with the owner and designer through a multi-phased interactive process lead by the contractor.

1. Phase I – Needs Analysis
    a. This phase shall be used to refine the general expectations of the system(s) functionality from a high level perspective.
    b. One or more meetings shall be expected.
    c. Contractor will provide the Owner with 3 screen layout samples for aesthetics. Owner shall determine which layout will be used.
2. Phase II – User Interface (UI) Development
    a. Contractor will create user interfaces for each system based upon the needs analysis.
    b. User interfaces shall be similar to any existing campus standards to allow for ease of use.
    b. Contractor will create a software emulation of the interface design that mirrors the final operational and navigational flow, behavior, and general responsiveness.

i. Emulation shall include full system navigation, button feedback, device and system status emulation, working page flips, popups, and messaging.

c. This phase is complete when the contractor has conducted working hands-on user interface demonstrations with the owner and designer, and received acceptance from both.

3. Phase III – Programming
   a. Contractor will write system code based on feedback from the GUI demonstration and system specifications/requirements.
4. Phase IV – Final Check Out
   a. Changes will also be made during system check out. Budget for two 8-hour days of touch screen and system-programming changes during the system check out.

B. General Requirements
1. All devices able to be controlled over LAN will be. This is a majority of AV equipment. Any equipment without a network port is excepted.
   a. Any further exceptions must be approved by the Designer.
2. All user interface designs shall follow interface design fundamentals. Lighting, color, and contrast shall be used consistently and effectively. All interface elements shall be easily viewable and controls easily selectable. All panels on the project shall have the same template and functional flow unless otherwise stated by the Designer and Owner.
3. Each touchpanel will have a start page with a client supplied PNG format logo
4 True feedback will be used for system status at all possible points. Emulated feedback is not acceptable for:
   a. Display/projector status
   b. Volume levels
   c. Source routing
   d. Microphone mute status/privacy
5. All panels will have a prominent ‘Help’ button on each main page which will alert support staff of an issue, as well as a ‘Cancel’ button which will clear the help request in cases of an accidental button press. This button will be available to users at any point within the UI and not require multiple button presses to navigate to.
6. Buttons shall be icon driven with smaller text for identification similar to mobile devices (iOS/Android/Windows).
7. Warm up and cool down timing for projectors and displays will be determined by timing startup and shutdown of the specified equipment, then setting appropriate times to reliably allow warm up and cool down to complete undisturbed by additional system commands.
8. Common user commands shall be accessible with no more than two button presses. Common commands would include source selection, display/projector power, volume, transport controls, or similar.
9. Care shall be taken to minimize page flips on the UI. Subpages and pop-ups shall be utilized where possible to prevent users from stepping through multiple pages in order to execute commands.

3.04 AUDIO DSP (Digital Signal Processing) PROGRAMMING

A. The Contractor will ensure that:
   1. Each DSP block has a description of its function.
   2. Each DSP block has fully labeled endpoint nodes
   3. Each DSP block with control dialogs has each channel labeled in a clear and concise manner to allow for simple signal identification.

B. The values in the audio DSP box shall be set to allow the performance requirements outlined in this document to be met.

C. Microphone mute shall be at DSP, not at microphone. If wireless microphones are muted at the transmitter the control system will mute the appropriate channel in the DSP. Un-muting the transmitter will un-mute the associated channel as well.

D. Proper gain structure practices shall be used. Signals will be brought to optimum levels upon entry to the DSP, and care will be taken to minimize level changes within the DSP signal path.

3.05 RACK POWER

A. Provide constant power outlets for all equipment that requires it. This includes CATV tuners, digital audio/video processors, streaming transmitters, network switches, and other devices that require a boot process prior to use.
   1. Rack systems will each be provided with dual vertical power strips for constant power distribution.
   2. Strips containing signal processing equipment will be run to rack UPS systems specified rather than building power.
   3. The remaining outlets are to provide switched power operated by the control system.
      a. Multiple amplifiers on the same circuit shall power up with a minimum of a 2 second delay between each.
      b. The system is to be free of measurable power transient noise when powering on or off.

3.06 OWNER PERSONNEL TRAINING

A. As part of Work of this Section, provide a total of 16 hours of on-the-job training for personnel, designated by the Owner for instruction, in the proper operation and maintenance of the systems. This training shall take place after the installation is operational but before the acceptance testing, in (four) two-hour blocks.

B. Provide the additional eight hours of training in a minimum of two-hour blocks during the first year after the system has been accepted. These training sessions are at the request of the owner.

C. Provide one initial set of manuals for the system as described in this specification at the time of training for review and comment by the owner’s personnel.

3.07 PERFORMANCE SPECIFICATIONS

A. The sound pressure level spectrum from the program speaker system, in each 1/3 octave band shall be ±3 dB (side to side) from 100 Hz to 12 kHz with 3 dB per octave roll off above 12 kHz and below 100 Hz. Total acoustical harmonic distortion shall not exceed 2% at sound levels of 90 dBC (1 kHz reference tone) at 4 feet above finish floor in the middle of the room.

B. The sound pressure level spectrum from the distributed speaker system, in each 1/3 octave band shall be ±3 dB from 125 Hz to 10 kHz with 6 dB per octave roll off above 10 kHz and below 125 Hz. Total acoustical harmonic distortion shall not exceed 2% at sound levels of 85 dBC (1 kHz reference tone) at four feet above finish floor in the middle of the room.

C. The gain structure for all audio system components (mixer input to amplifier output) shall be adjusted to achieve the highest signal-to-noise ratio, 75 dB from 50 Hz to 15 kHz minimum.

D. The audio frequency response of the electronics system with equalizers bypassed shall vary less than ±1 dB from 50 Hz to 12 kHz.

E. The electronic system audio distortion shall be less than 0.5% at 1 kHz at the equipment's rated input signal level.

H. High Resolution Digital Video
1. System infrastructure must support data rates up to 23 Gbps and pixel clock up to 594Mhz.
2. System infrastructure must support resolutions up to 4KDCI and 4KUHD @ 60 Hz 4:4:4 chroma sampling and 10-bit color depth (HDR capable)
3. Extended Display Identification Data (EDID) shall be supported in _____ based systems
4. System shall be High-bandwidth Digital Content Protection version 2.0 (HDCP) compliant in _____ based systems.
5. _____ based systems shall manage HDCP encryption and keys between input and output devices for fast switching and distribution of a single source signal to one or more displays.

I. Image size and clarity: Mount the video projector as indicated on the drawings and project the image onto the projection screen. Projected images shall be of maximum width and maximum height, centered on screen. Image tests shall utilize standard AMI test slides and similar video media to establish any image sizes on the screen.

J. Geometric Distortion: Shall be corrected using physical and/or optical adjustment only. Electronic or digital correction should be used only when called for by the design intent.

K. Control functions: Demonstrate that each of the controlled devices may be controlled either at the individual device or through the use of the remote control system and that all

individual devices and combinations of devices may be utilized in the logical and common formats and that all systems are in proper working order.

3.08 CONTRACTOR'S TESTING AND ADJUSTMENTS

A. Furnish all equipment and personnel to conduct these tests in accordance with the performance specification requirements.

B. All timing and gain measurements shall be made while the operator controls of the device under test are set in the center-of-travel, in bypass, nulled out or at the manufacturer's detent position. Any adjustments should be made by modification of cable length or internal adjustments.

C. Audio Testing
1. Before connecting high impedance (distributed) loudspeaker lines to the power amplifiers, measure and record the impedance curves of all loudspeaker circuits, using a sweep test or impedance bridge for at least six frequencies from 125 Hz through 8,000 Hz.
2. Before connecting low impedance (8-Ohm) loudspeaker lines to the power amplifiers, measure and record the impedance of all loudspeaker circuits, Report the DC resistance reading.
3. Test all low-level audio cables and connections for continuity and ground faults and correct polarity.
4. Apply a sine-wave sweep signal to each loudspeaker system, sweeping from 50 Hz to 5,000 Hz at a sound pressure level, which is 10 dB below the loudspeakers rated electrical input power. Listen for rattles or objectionable noise and correct if apparent.
5. Check for proper polarity of loudspeakers by applying music program or pink noise to each system and walking through the transition areas of coverage from one loudspeaker to the next. Transition should be smooth with no apparent shifting of source, back and forth from one loudspeaker to the next.
6. Coverage Uniformity: Scan the areas served by the system and record sound pressure level in 1/3-octave bands. Perform any necessary adjustments to loudspeaker orientations as required to achieve the specified uniformity.
7. Adjust all system gain controls, both physical and virtual in software, for optimum signal-to-noise ratio. After all adjustments required to meet the performance Specification requirements are made, measure and report the resulting system electrical signal-to-noise ratio at the amplifier outputs from 20-20 kHz in 1/3 octave bands referenced to the voltage required to achieve 85 dBC in the center of the room (1 kHz reference tone) at 4-feet above finish floor.
8. Measure the sound pressure level using a calibrated type 1 precision sound level meter as defined by ANSI S1.4. Measure using the slow time Constant. Report the "raw house curve" with the equalizer controls set to "0." Adjust all gain controls and equalizers to provide the 1/3-octave band sound levels specified.

3.09 ACCEPTANCE TESTS

A. Provide a STATEMENT OF COMPLETION, certifying that the system is installed and is ready for acceptance testing by the Design Consultant.

B. Schedule a time for the Design Consultant to perform system acceptance testing and adjustment with at least 14 days advance notice.

C. Qualification for Acceptance: Subsequent to completing preliminary testing, Contractor shall furnish the Owner/Design Consultant with copies of As Built documentation as required in this Specification.

D. Furnish a technician who is familiar with the system to assist the Design Consultant during the acceptance testing and equalization for the duration it takes to complete the adjustments (regular time or overtime as required). A minimum of 24 hours as required to complete the adjustments.

E. Acceptance Test: The Owner and Design Consultant shall be present during the acceptance testing and require the assistance and cooperation of the Contractor.
   1. Each major component shall be demonstrated to function.
   2. Measurements: Electrical, optical and acoustical measurements may be performed at the discretion of the Owner and/or their representatives. The Design Consultant will supply acoustical measuring equipment. Such measurements may include sound pressure levels, uniformity of coverage, distortion, or other pertinent characteristics. Contractor shall provide equipment for performing any necessary electrical test or adjustments.
   3. Viewing and listening tests may include subjective tests by observers at any location in the facility.
   4. Operating tests may include use of any individual or combination of systems provided and from any control location.
   5. Each cable may be inspected for proper termination.
   6. Under the direction of the Design Consultant, adjust signal levels and loudspeaker aiming, as required, to achieve the uniform sound distribution required by this Specification.

F. Such tests may be performed on any piece of equipment or system. If any test shows the equipment or system is defective or does not comply with the Specifications, Contractor shall perform any remedies, at their expense, and pay the subsequent expenses of any re-testing required.

G. Contractor shall provide a final report, which will document the final equipment settings and adjusted levels and values.

H. If the system does not meet criteria or if additional trips to the JOB SITE for testing or adjustment are required, the Contractor shall reimburse the Owner for all expenses and professional time encountered by the Design Consultant/Architect.

PART 4 - BIDDING INSTRUCTIONS

4.01 GENERAL

A. This section provides the bid format for the project's audiovisual system. This bid form is to be completed in its entirety. Failure to provide information required by this document may be considered grounds for immediate disqualification.

B. The installation of the audiovisual system is based on the attached design documents that describe the design developed by Thorburn Associates.

C. All equipment substitutions must be equal to or better fully functional replacements of the specified items. This includes items such as rack mounting requirements, software operating requirements, functional features, maintenance features and warranty length. Any substitutions must be approved in advance by the Designer.

4.02 BID FORM

Provide the following documentation with your bid:

A. Refer to bid submittal section 1.06 B for bid submittal requirements. Attach all required information.

B. Provide a schedule indicating the number of workdays to install the system after each major sign-off by the Owner (i.e., after the bid is awarded, how many days to submit shop drawings, how many days after approval of shop drawings prior to construction, etc.) through the end of the project. Schedule shall be broken down as required by bidding firm's policies.

C. Provide a copy of your standard contract for materials and installation services.

D. A statement indicating all equipment is readily available. If not, provide a recommended solution as an alternate.

E. Provide a bid for to install a complete and operational system. "Complete and operational" is defined as tested and adjusted per design documents.

F. Complete bid form information called out in parts of this specification.

G. Return one additional courtesy copy of the completed bid form and all required documentation to Thorburn Associates, 2500 Gateway Centre Blvd, Suite 800, Morrisville, NC 27560.

PART 5 - PRICING

5.01 BREAKDOWN

A. Provide Unit Cost for each item listed below.

B. Provide a list of other equipment and hardware required for a complete and working system.

C. Provide Total Line Cost for each item listed below based on quantity.

D. Provide the following line item and unit costs:
1. Total Equipment Cost
2. Engineering
   a. Lump Sum
   b. Hourly Rate
3. Shop Labor
   a. Lump Sum
   b. Hourly Rate
4. Field Labor
   a. Lump Sum
   b. Hourly Rate
5. Training
6. Manuals
7. Shipping
8. Taxes
9. Overhead
10. Profit
11. Total Installed Cost

Quantity	Description	Manufacturer	Model
4	Bleacher Speaker	JBL	CBT70J
4	Court Speaker	JBL	Control 29AV-1
1	Amplifier 4ch (court)	Crown	DCI 4|2400N
1	Amplifier 2ch (bleachers)	Crown	DCI 2|1200N
1	Ethernet Switch	Linksys	LGS108P
1	Power Sequencer	Furman	CN-2400s
1	OFE DSP Controller	Symetrix	ARC-2e
1	OFE DSP	Symetrix	Jupiter 8
1	OFE Wireless Microphone Receiver	Shure	ULXS4
2	Wireless Microphone System	Shure	ULXS24/58
1	Antenna Distribution	Shure	UA844SWB
1	OFE Rack		

END OF SECTION 274116

Q:\2017\17115 - Los Medanos Gym (duplicate)\Audiovisual\Budget

LOS MEDANOS COLLEGE L-638
GYMNASIUM AUDIO SYSTEM

ABBREVIATIONS

A	- ACCESSIBLE	JT	- JOINT
AC	- ASPHALT CONCRETE	LAM	- LAMINATE (D)
A/C	- AIR CONDITIONING	MATL	- MATERIAL
ACOUS	- ACOUSTICAL	MAX	- MAXIMUM
ADD	- ADDENDUM	MECH	- MECHANICAL
ADJ	- ADJUSTABLE or ADJACENT	MIN	- MINIMUM
ALUM	- ALUMINUM	MIR	- MIRROR
ARCH	- ARCHITECT (URAL)	MISC	- MISCELLANEOUS
BD	- BOARD	MTL	- METAL
BLDG	- BUILDING	(N)	- NEW
BLKG	- BLOCKING	NIC	- NOT IN CONTRACT
BM	- BEAM	NO	- NUMBER
BOT	- BOTTOM	NTS	- NOT TO SCALE
BUR	- BUILT UP ROOFING	O/	- OVER
C	- CARPET	OC	- ON CENTER
CB	- CATCH BASIN	OD	- OUTSIDE DIAMETER
CJ	- CONTROL JOINT	OPP	- OPPOSITE
CLG	- CEILING	PL	- PROPERTY LINE
CT	- CERAMIC MOSAIC (TILE)	PLAM	- PLASTIC LAMINATE
CMU	- CONCRETE MASONRY UNIT	PLAS	- PLASTER
CO	- CLEAN OUT	PLT	- PLATE
COL	- COLUMN	PLWD	- PLYWOOD
CONC	- CONCRETE	PNL	- PANEL
CSK	- COUNTERSINK	POC	- POINT OF CONNECTION
CW	- COLD WATER	PTDF	- PRESERVATIVE TREATED DOUGLAS FIR
DET	- DETAIL	PTN	- PARTITION
DF	- DRINKING FOUNTAIN	PVC	- POLYVINYL CHLORIDE
DIA	- DIAMETER	R	- RISER
DIAG	- DIAGONAL	RD	- ROOF DRAIN
DIM	- DIMENSION	REF	- REFERENCE
DIV	- DIVISION	REFR	- REFRIGERATOR
DS	- DOWNSPOUT	REQ'D	- REQUIRED
DWG	- DRAWING	RDWD	- REDWOOD
E	- ENAMEL	RWL	- RAIN WATER LEADER
(E)	- EXISTING	SCH	- SCHEDULE
EA	- EACH	SD	- STORM DRAIN
EJ	- EXPANSION JOINT	SEC	- SECTION
ELEV	- ELEVATION	SF	- SQUARE FEET
ELECT	- ELECTRICAL	SHT	- SHEET
EQ	- EQUAL	SHTG	- SHEATHING
EXT	- EXTERIOR	SIM	- SIMILAR
(F)	- FUTURE	SPEC	- SPECIFICATIONS
FAB	- FABRICATION	SQ	- SQUARE
FAC	- FACTORY	SS	- STAINLESS STEEL
FD	- FLOOR DRAIN	STN	- STAIN
FF	- FINISHED FLOOR	STD	- STANDARD
FIN	- FINISH	STL	- STEEL
FND	- FOUNDATION	TEMP	- TEMPERED
FOC	- FACE OF CONCRETE	T&G	- TONGUE-AND-GROOVE
FOF	- FACE OF FINISH	THRU	- THROUGH
FOP	- FACE OF PLYWOOD	TJ	- TOOL JOINT
FOS	- FACE OF STUD	TOC	- TOP OF CURB, CRICKET, or CONCRETE
FRP	- FIBERGLASS REINFORCED PLASTIC PANELS	TOP	- TOP OF PARAPET
FTG	- FOOTING	TOS	- TOP OF SLAB, SHEATHING, or STEEL
GA	- GAUGE	TS	- TOP OF SHEATHING
GB	- GYPSUM BOARD	TV	- TELEVISION
GL	- GLASS or GLAZING	TYP	- TYPICAL
GLV	- GALVANIZED	UON	- UNLESS OTHERWISE NOTED
GSM	- GALVANIZED SHEET METAL	VCT	- VINYL COMPOSITION TILE
GYP	- GYPSUM	VCTB	- VINYL COVERED TACKBOARD
HB	- HOSE BIBB	VIF	- VERIFY IN FIELD
HDW	- HARDWOOD	VWC	- VINYL WALL COVERING
HM	- HOLLOW METAL	W/	- WITH
HOR	- HORIZONTAL	WD	- WOOD
HT	- HEIGHT	WF	- WIDE FLANGE
HW	- HOT WATER	WS	- WOOD SCREW
ID	- INSIDE DIAMETER	WSCT	- WAINSCOT
INV	- INVERT	@	- AT
		±	- PLUS/MINUS

SYMBOLS LEGEND

SHEET INDEX

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CALIFORNIA CODE OF REGULATIONS (TITLE DOCUMENTS) AND ALL OTHER LOCAL CODES AND ORDINANCES OF THE GOVERNING AUTHORITY HAVING JURISDICTION AND AS IDENTIFIED UNDER APPLICABLE CODES ON THIS SHEET. IT IS THE INTENT OF THESE DOCUMENTS TO COMPLY HERETO.
2. ALL DRAWINGS SHALL BE USED IN CONCERT WITH EACH OTHER. IF THICONTRACTOR DISCOVERS ANY DISCREPANCY BETWEEN THEDOCUMENTS, THE CONTRACTOR SHALL REQUEST IN WRITING A CLARIFICATION FROM THE ARCHITECT. REFER TO THE ARCHITECTURAL AND ENGINEERING DRAWINGS FOR PLACEMENT, ORIENTATION AND COORDINATION OF WORK. INFORMATION SHOWN IN LARGER SCALE IS INTENDED TO SUPPLEMENT INFORMATION OF SMALLER, PRECEDING REFERENCE DRAWINGS. LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
3. NOTATIONS MARKED "TYPICAL" (TYP.) SHALL BE CONSISTENT THROUGHOUT ALSUCH REFERENCE NOMENCLATURE, SYMBOLS AND DRAWING INDICATIONS OF LIKE OR SIMILAR KIND.
4. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY CONSTRUCTION CONDITIONS AND DIMENSIONS PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY ASSOCIATED WORK. IF DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL REQUEST IN WRITING A CLARIFICATION FROM THE ARCHITECT PRIOR TO COMMENCEMENT OF ANY ASSOCIATED WORK.
5. CONTRACTOR SHALL VERIFY, AT THE SITE, ALL EXISTING CONDITIONS PRIOR TO SUBMITTAL OF BIDS. SITE VISITS DURING BIDDING SHALL BE COORDINATED WITH THE OWNER IN ACCORDANCE WITH THE PROVISIONS OF THE SPECIFICATIONS.
6. CONTRACTOR SHALL PROTECT ALL EXISTING WORK. ANY DAMAGED WORK SHALL BE REPLACED WITH THE SAME MATERIALS, INCLUDING MATCHING THE EXISTING COLORS AND TEXTURES.
7. EXISTING WORK IS SHOWN FOR REFERENCE ONLY. THE OWNER AND/OR ARCHITECT DO NOT GUARANTEE EXISTING CONDITIONS AS SHOWN ON THESE DOCUMENTS.
8. CONTRACTOR(S) SHALL BE RESPONSIBLE FOR THEIR OWN CLEANUP AS WORK PROGRESSES.
9. MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS THAT ARE DISCOVERED DURING THE PROGRESS OF THE WORK SHALL BE REPORTED TO THE OWNER IN WRITING. WORK IN THAT PARTICULAR AREA SHALL BE SUSPENDED UNTIL THE OWNER TESTS THE SUSPECT MATERIAL AND IT IS FOUND TO BE SAFE, OR THE MATERIAL HAS BEEN PROPERLY ABATED.
10. ALL WORK IS NEW UNLESS OTHERWISE NOTED.
11. IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE CONSTRUCTION DOCUMENTS, THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN.
12. STORAGE OF CONSTRUCTION MATERIAL AND EFFECT OF WORK ON EXISTING OCCUPIED AREAS SHALL BE APPROVED BY THE LOCAL FIRE AUTHORITY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.
14. KEYNOTES USED ON THE ARCHITECTURAL DRAWINGS ARE FOR ASSEMBLIES, MATERIAL REFERENCES AND NOTES. REFER TO THE KEYNOTE LIST ON THE RESPECTIVE DRAWING FOR THE INFORMATION WHICH RELATES TO EACH KEYNOTE.
15. DURING CONSTRUCTION, COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION WILL BE ENFORCED.
16. DURING CONSTRUCTION, COMPLIANCE WITH CBC CHAPTER 33, SAFETY WILL BE ENFORCED.
17. NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEMS UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO DSA FOR APPROVAL
18. SUBSTITUTIONS AFFECTING DSA REGULATIONS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA AND APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION

APPLICABLE CODES

CALIFORNIA CODE OF REGULATIONS, TITLE 24 - BUILDING STANDARDS

2016 **CALIFORNIA ADMINISTRATIVE CODE (CAC)** (Title 24, Part 1, CCR)
2016 **CALIFORNIA BUILDING CODE (CBC)**, Volumes 1 & 2 (Title 24, Part 2, CR) (2015 International Building Code with 2016 California amendments)
2016 **CALIFORNIA ELECTRICAL CODE,** Title 24, Part 3, CCR) (2014 National Electrical Code with 2016 California amendments)
2016 **CALIFORNIA MECHANICAL CODE (CMC)**, Title 24, Part 4, CCR) (2015 Uniform Mechanical Code with 2016 California amendments)
2016 **CALIFORNIA PLUMBING CODE (CPC)**, Title 24, Part 5, CCR) (2015 Uniform Plumbing Code with 2016 California amendments)
2016 **CALIFORNIA ENERGY CODE,** (Title 24, Part 6)
2016 **CALIFORNIA HISTORICAL BUILDING CODE**, (Title 24, Part 8, CCR) (2015 International Building Code with 2016 California amendments)
2016 **CALIFORNIA FIRE CODE (CFC)**, Title 24, Part 9, CCR) (2015 International Fire Code with 2016 California amendments)
2016 **CALIFORNIA EXISTING BUILDING CODE,** (Title 24, Part 10, CCR) (2015 International Building Code with 2016 California amendments)
2016 **CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)**, Title 24, Part 11, CCR) - 2016 California Green Building Standards Code applies at those portions designated by California Building Standards Commision.
2016 **CALIFORNIA REFERENCE STANDARDS CODE**, (Title 24, Part 12, CCR)

2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN, U.S. Department of Justice

2016 NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2015 Edition

2016 NFPA 72, NATIONAL FIRE ALARM CODE AND SIGNALING CODE, 2015 Edition

NOTE: SOME CODES MAY NOT APPLY IF WORK REGULATED BY SUCH CODES IS NOT WITHIN THE SCOPE OF THIS PROJECT.

SCOPE OF WORK

THE FOLLOWING IS A BRIEF DESCRIPTION OF THE SCOPE OF WORK AS REQUIRED BY DSA. CONTRACTOR SHALL DETERMINE/VERIFY THE ENTIRE SCOPE AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING BIDS.

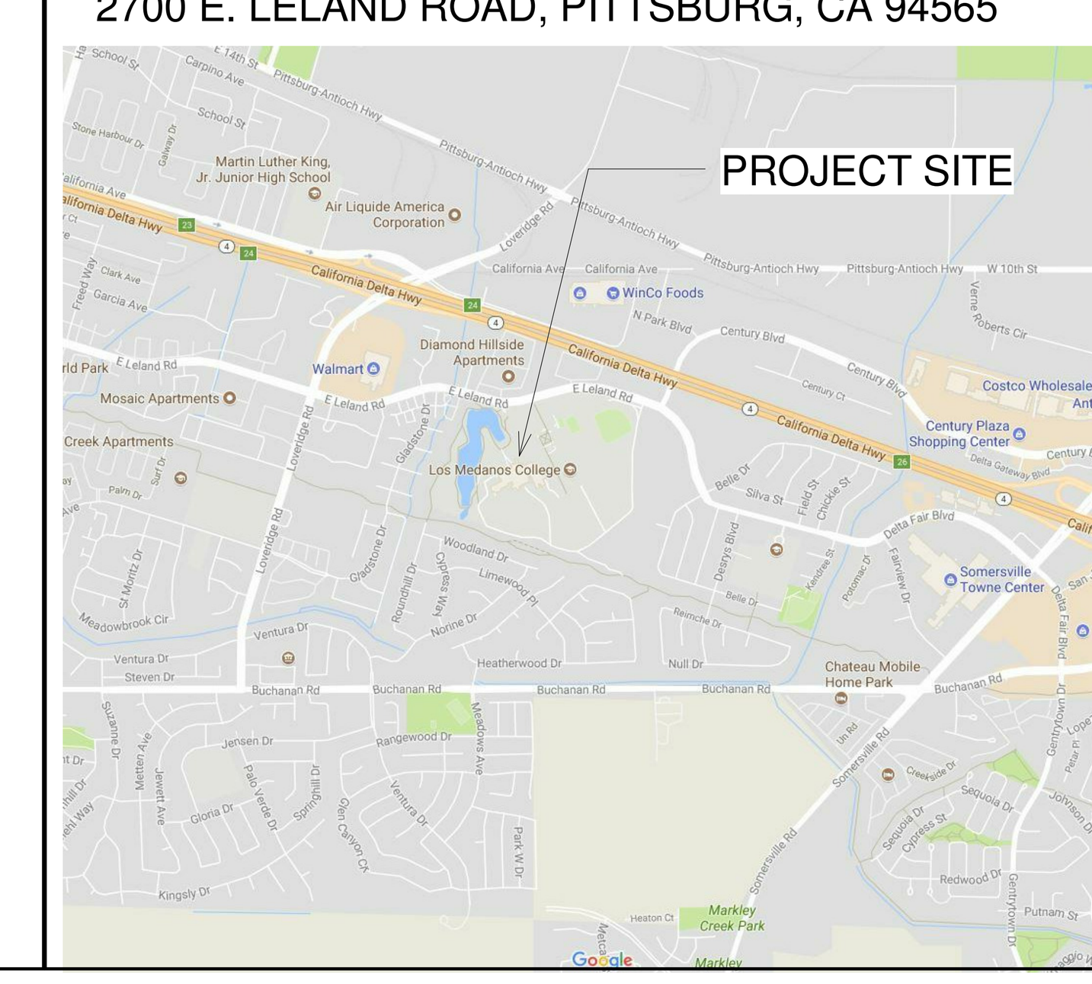
1. ADD ACOUSTICAL TREATMENT ON WALLS AND CEILING OF EXISTING GYMNASIUM.
2. AUDIO VISUAL WORK IN THE EXISTING GYMNASIUM BUILDING
3. ELECTRICAL WORK AS REQUIRED FOR NEW AUDIO VISUAL EQUIPMENT AND LOWERING OF LIGHT FIXTURES.

PROJECT DIRECTORY

BUILDING DATA

VICINITY MAP

2700 E. LELAND ROAD, PITTSBURG, CA 94565



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SEAL

REVISIONS

NO.	DATE	APPRD.	DESCRIPTION

CONSULTANT

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE L-638 GYMNASIUM AUDIO SYSTEM

2700 E. LELAND ROAD, PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	xx
CHK'D BY:	xx
ISSUE DATE:	06-29-2020

SHEET TITLE

TITLE SHEET

SHEET NUMBER

G1100

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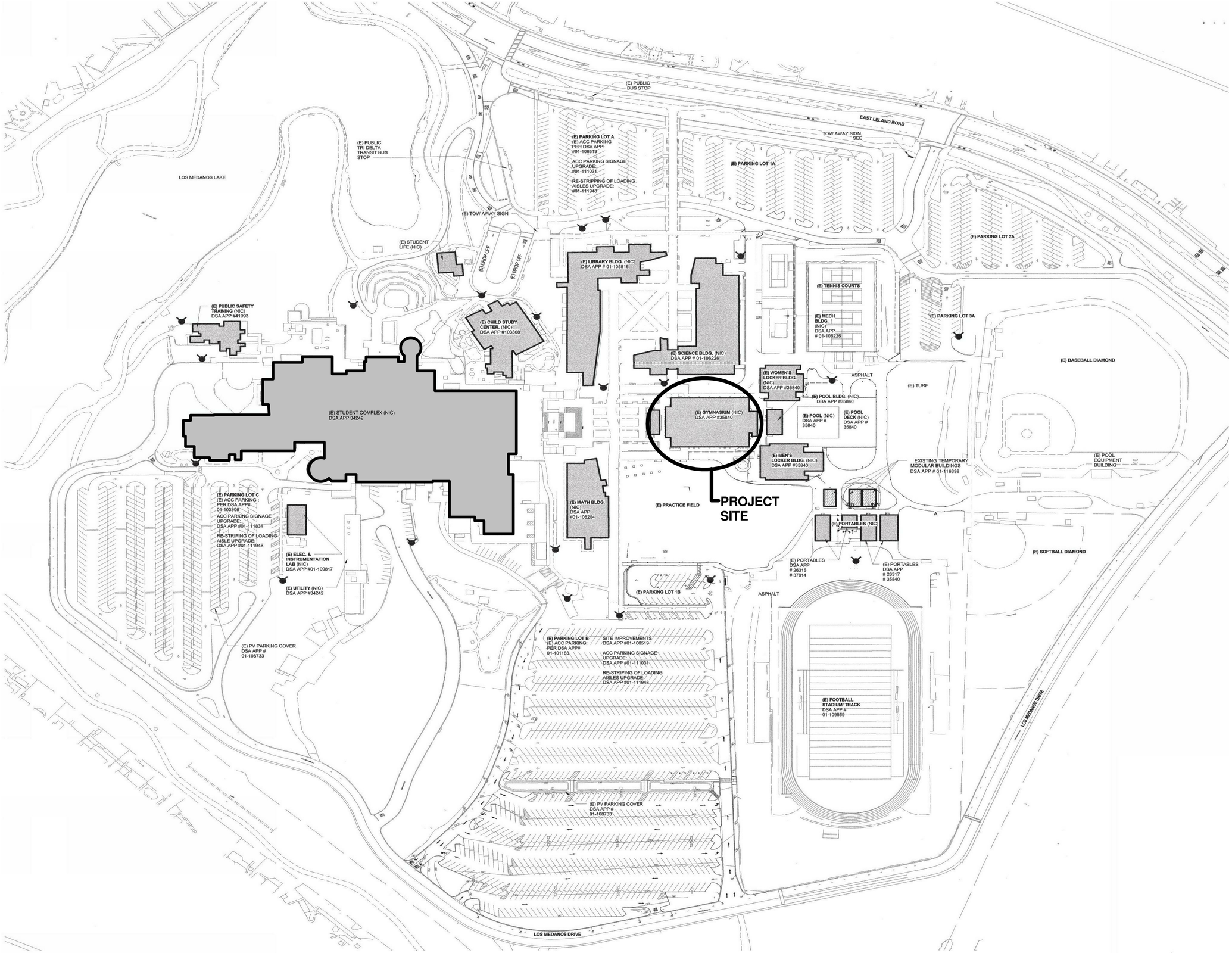

CAMPUS SITE PLAN

SCALE: N.T.S.

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JASON A. RICCIO
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STATE OF CALIFORNIA

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NO.	DATE	APPRD.	DESCRIPTION

CONSULTANT

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE L-638 GYMNASIUM AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
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CHK'D BY:	PL
ISSUE DATE:	06-29-2020

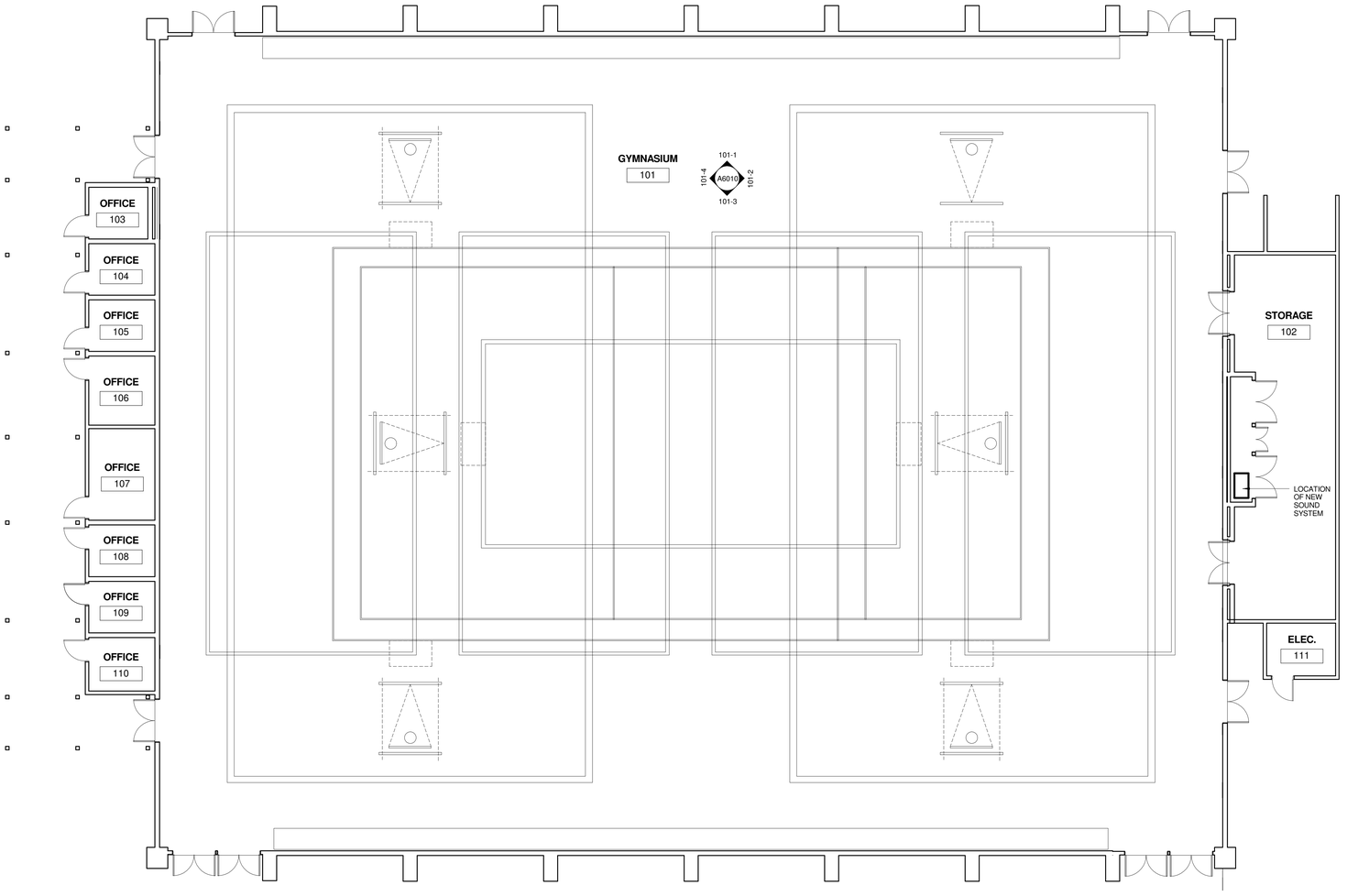
SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

A1100

PLOT DATE: 7/2/2018 8:58:26 AM J:\115448_CCCD_LMC_Gym_AV\5.0 Drawings\Statement AT\W-115448-DWM-20180502-01-V2018.rvt

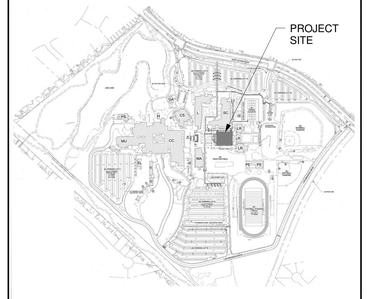


FLOOR PLAN

0 4' 8' 16'

N

KEY PLAN



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CONSULTANT

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE L-638 GYMNASIUM AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

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PROJECT NO:	115448
DRAWN BY:	xx
CHK'D BY:	xx
ISSUE DATE:	06-29-2020

SHEET TITLE

FLOOR PLAN

SHEET NUMBER

A2310

PLOT DATE: 7/2/2018 9:00:34 AM

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A 21 TOTAL BAFFLES

B 20 TOTAL BAFFLES

C 24 TOTAL BAFFLES

D 18 TOTAL BAFFLES

E 22 TOTAL BAFFLES

F 16 TOTAL BAFFLES

G 22 TOTAL BAFFLES

H 16 TOTAL BAFFLES

I 22 TOTAL BAFFLES

J 18 TOTAL BAFFLES

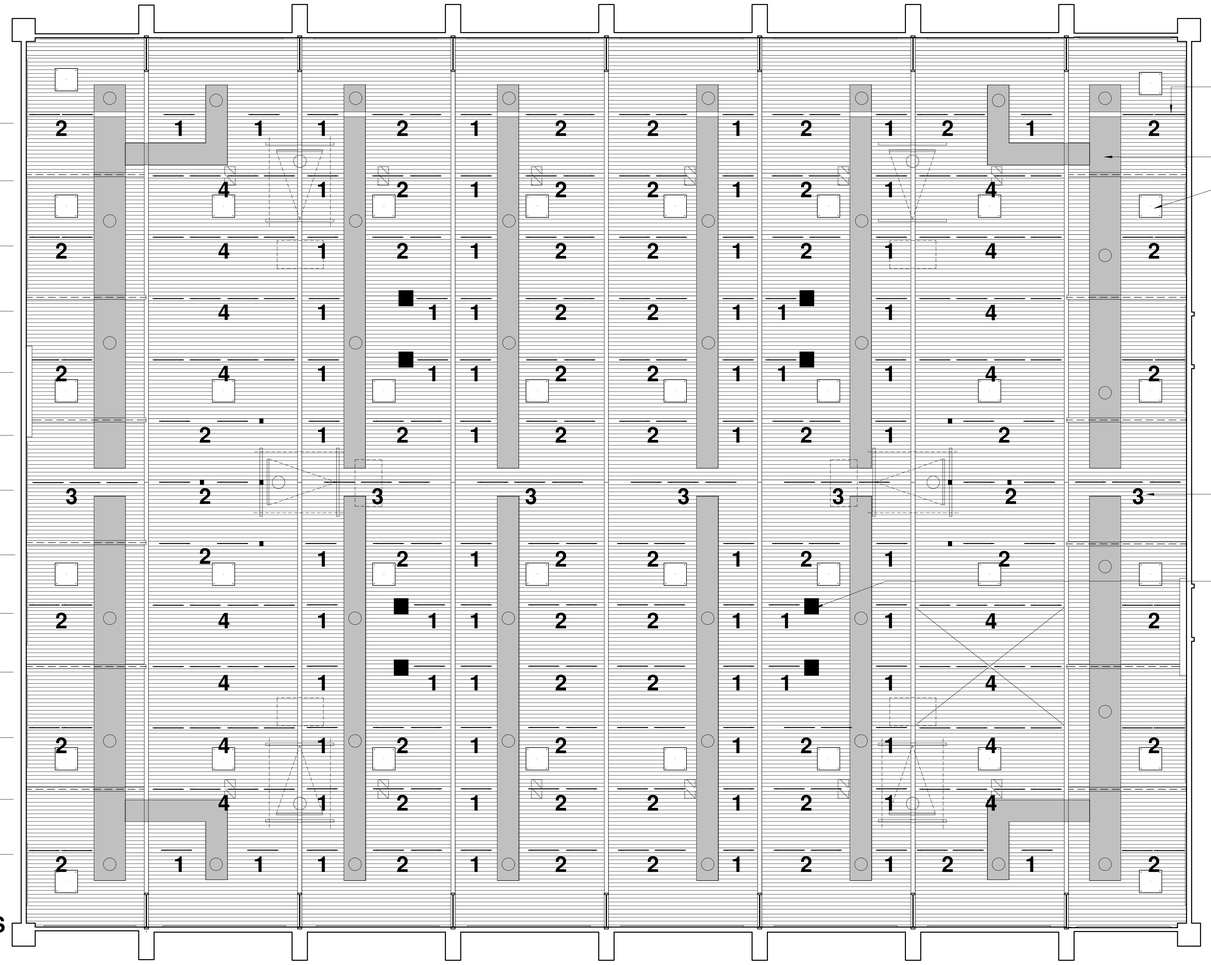
K 24 TOTAL BAFFLES

L 20 TOTAL BAFFLES

M 21 TOTAL BAFFLES

TOTAL= 256 BAFFLES

256 x 8sf = 2,048 sf OF ACOUSTICAL SURFACE

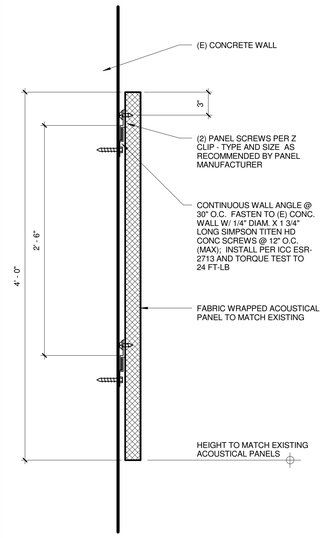


FIRST FLOOR REFLECTED CEILING PLAN

NOTE:
SUBMIT LAYOUT OF SPEAKER CONDUIT PRIOR TO INSTALLATION FOR APPROVAL.
ALL CONDUIT SHALL BE PAINTED TO MATCH INSTALLED SURFACE.

0 4' 8' 16'

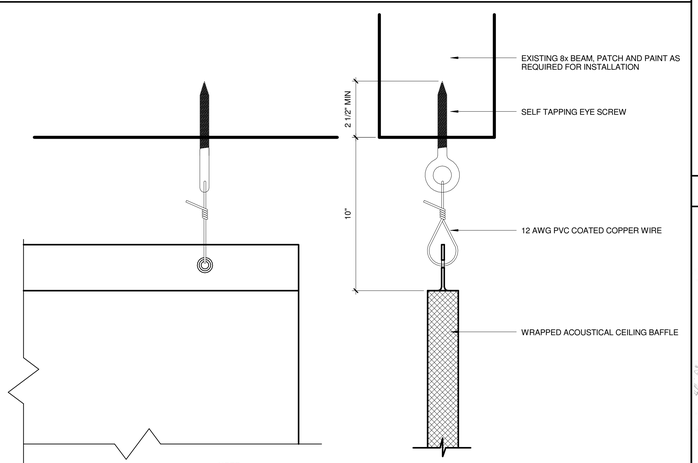
N



1 WALL PANEL ATTACHMENT

CEILING LEGEND

- LOCATION OF SPEAKER
- LOCATION OF EXISTING SPEAKER TO BE REMOVED. TOTAL OF 12. PATCH AND PAINT EXISTING BEAM.
- (E) SUSPENDED LIGHT FIXTURE
- (E) DUCTWORK

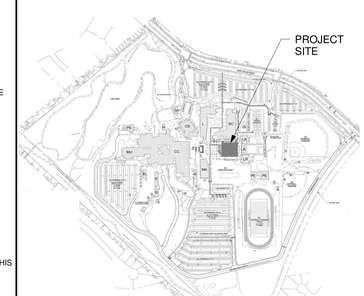


NOTE:

1. DO NOT OVER TIGHTEN OR PUT EXCESSIVE FORCE ON GROMMETS, AS THIS MAY CAUSE BAFFLE FAILURE.
2. TIE WIRE IS RECOMMENDED TO CONNECT DIRECTLY ABOVE GROMMET. AVOID ATTACHING AT ODD ANGLES AS THIS CAUSES UNDO STRESS ON GROMMETS.
3. TIE WIRE TO BE SNUGGED TIGHT TO CABLE TO PREVENT SLIPPAGE.

2 CEILING ACOUSTICAL BAFFLE ATTACHMENT

KEY PLAN



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SEAL

LICENSED ARCHITECT JASON A. RIEDY No. C27345 REN. 2/21 STATE OF CALIFORNIA

REVISIONS

NO.	DATE	APPRD.	DESCRIPTION

CONSULTANT

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE
L-638 GYMNASIUM
AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
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CHK'D BY:	xx
ISSUE DATE:	06-29-2020

SHEET TITLE

REFLECTED CEILING PLAN

SHEET NUMBER

A2710

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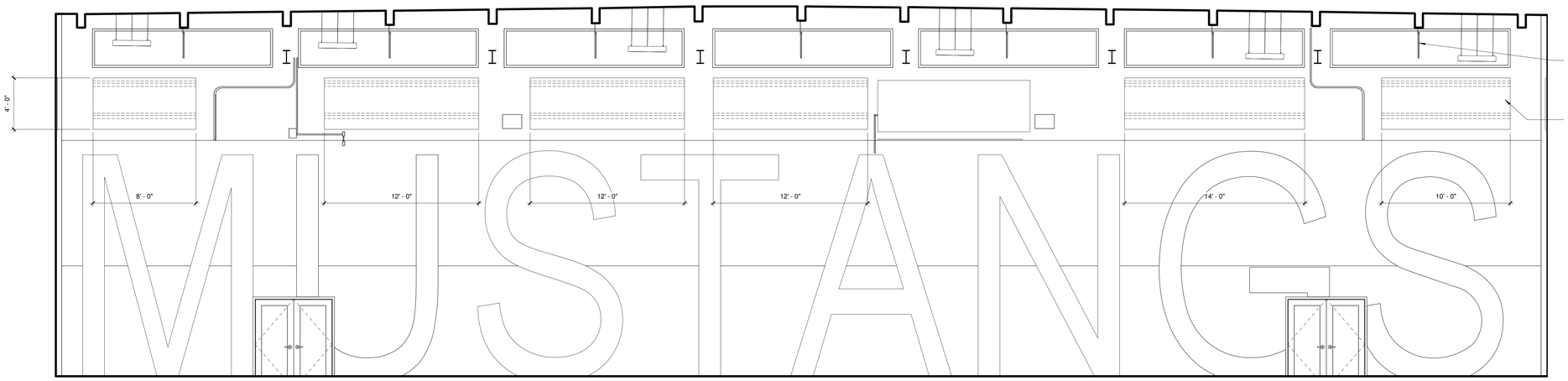
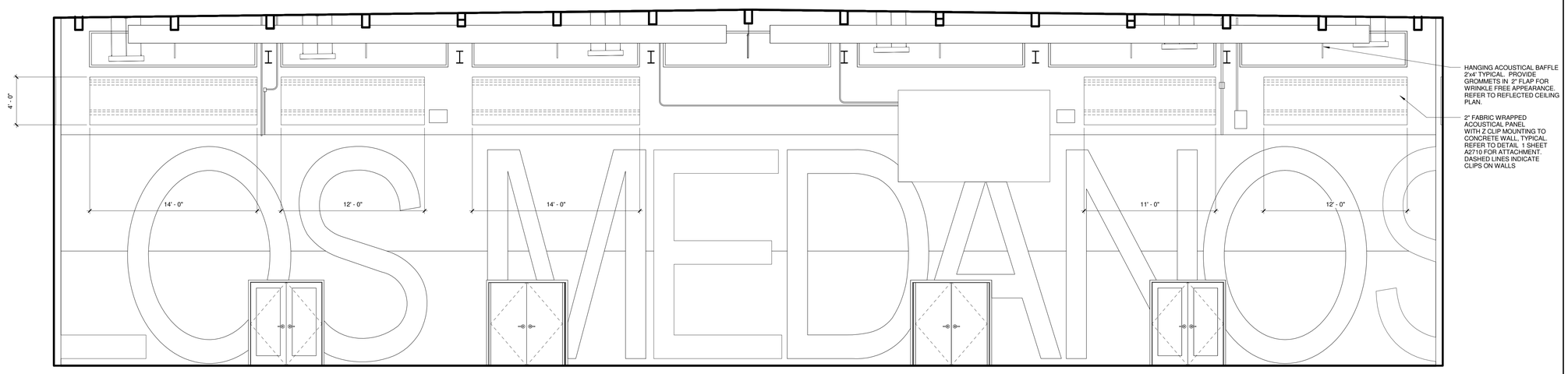


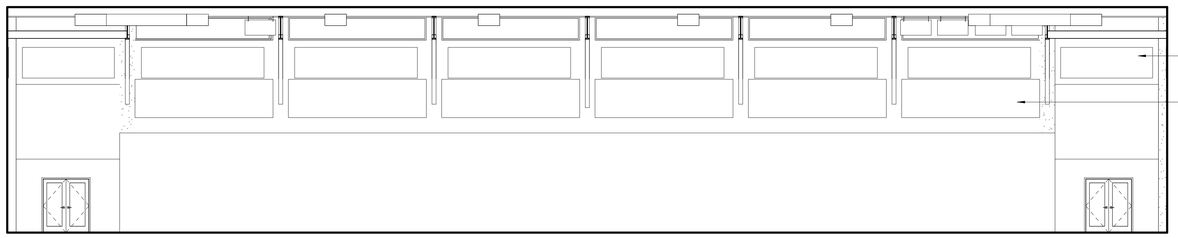
101-2



101-2

INTERIOR ELEVATIONS

0 2' 4' 8'



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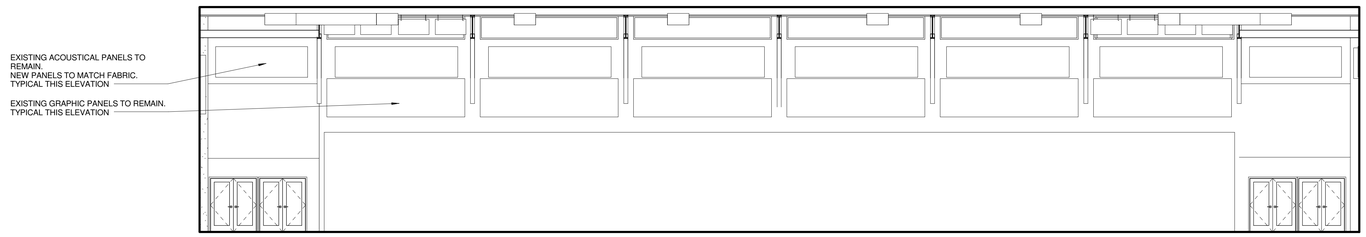

101-3

INTERIOR ELEVATIONS

0 4' 8' 16'

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REVISIONS

NO.	DATE	APPRD.	DESCRIPTION

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CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE
L-638 GYMNASIUM
AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	XX
CHK'D BY:	XX
ISSUE DATE:	06-29-2020

SHEET TITLE

INTERIOR ELEVATIONS

SHEET NUMBER

A6010

PLOT DATE: 7/2/2018 8:56:10 AM J:\115448_CCC_LMC_Gym_AV\5.0 Drawings\Sketch\current\ATH-115448-SHM-2018-06-01-V2016.rvt

ABBREVIATIONS

GENERAL

(e)or(E)	EXISTING
(n)or(N)	NEW
ABV	ABOVE
ACH	ABOVE COUNTER HEIGHT
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUST(ABLE)
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ASA	AMERICAN STANDARDS ASSOCIATION
AV	AUDIOVISUAL
AVC	AUDIOVISUAL CONTRACTOR
BET	BETWEEN
BFC	BELOW FINISHED CEILING
BLDG	BUILDING
BLW	BELOW
CB	CEILING BOX
C-C	CENTER TO CENTER
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASON UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
COORD	COORDINATE, COORDINATION
CORR	CORRIDOR
DED	DEDICATE, DEDICATED
DEMO	DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DIM	DIMENSION
DIST	DISTANCE
DTC	DATA TELECOMMUNICATION CONTRACTOR
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVATION
EMERG	EMERGENCY
EQ.	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EWB	ELECTRONIC WHITE BOARD
EXT	EXTERIOR
FCC	FEDERAL COMMUNICATIONS COMMISSION
FIN	FINISH
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GWB	GYPSUM WALL BOARD
IFC	IN FINISHED CEILING
IFF	IN FINISHED FLOOR
INCAND	INCANDESCENT
INCL	INCLUDE, INCLUDING
INFO	INFORMATION
INT	INTERIOR
LVI	LOW VOLTAGE INTERFACE
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, AND PLUMBING
MFG	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
No.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFE	OWNER FURNISHED EQUIPMENT
OFOI	OWNER FURNISHED OWNER INSTALLED
OPP	OPPOSITE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMIN.
OVHD	OVERHEAD
PLC	PERFORMANCE LIGHTING CONTRACTOR
PLY	PLYWOOD
PRI	PRIMARY
PROP	PROPOSED
PSC	PROJECTION SCREEN CONTROL
QTY	QUANTITY
RCP	REFLECTED CEILING PLAN
RCT	RECEPTACLE
REF	REFERENCE
REM	REMOVE
REPL	REPLACE
REQD	REQUIRED
RM	ROOM
SCHD	SCHEDULE
SECT	SECTION
SHT	DRAWING SHEET NUMBER OR SERIES
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
SUSP	SUSPEND(ED)
SWT	SWITCH
SYM	SYMMETRICAL
TELC	TELECOMMUNICATIONS CONTRACTOR
TEMP	TEMPORARY
THK	THICK(NESS)
TIA/EIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION/ ELECTRONICS INDUSTRY ALLIANCE
TME	TO MATCH EXISTING
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD	WOOD

WIRE AND CABLE

AFMW	BONDED FILL FLOODED TWISTED CABLE
ARMM	RISER ARMORED BONDED MULTIPAIR CABLE
AWG	AMERICAN WIRE GUAGE
CAT3	CATEGORY 3 TWISTED PAIR COPPER CABLE
CAT4	CATEGORY 4 TWISTED PAIR COPPER CABLE
CAT5	CATEGORY 5 TWISTED PAIR COPPER CABLE
CAT5e	CATEGORY 5 ENHANCED TWISTED PAIR COPPER CABLE
CAT6	CATEGORY 6 TWISTED PAIR COPPER CABLE
CM	NEC, COMMUNICATIONS CABLE
CMP	NEC, COMMUNICATIONS PLENUM CABLE
CMR	NEC, COMMUNICATIONS RISER CABLE
COAX	COAXIAL CABLE
FO	FIBER OPTIC
HDPE	HIGH DENSITY POLYETHELYNE
LTFF	LOOSE TUBE FILLED & FLOODED
MDPE	MEDIUM DENSITY POLYETHELYNE
MM	MULTIMODE FIBER OPTIC CABLE
MPP	NEC, MULTIPURPOSE PLENUM CABLE
OFC	NEC, OPTICAL FIBER CONDUCTIVE CABLE
OFCP	NEC, OPTICAL FIBER CONDUCTIVE PLENUM CABLE
OFCR	NEC, OPTICAL FIBER CONDUCTIVE RISERCABLE
OFNR	NEC, OPTICAL FIBER NON-CONDUCTIVE CABLE
OFN	NEC, OPTICAL FIBER NON-CONDUCTIVE PLENUM CABLE
OFNP	NEC, OPTICAL FIBER NON-CONDUCTIVE RISERCABLE
SM	SINGLE MODE FIBER OPTIC CABLE
STP	SHIELDED TWISTED PAIR
TB	TIGHT BUFFERED
UTP	UNSHIELDED TWISTED PAIR
WM	WIRE MANAGER/MANAGEMENT

TELECOMMUNICATIONS

110	TWISTED PAIR TERMINATION BLOCK
ADF	AREA DISTRIBUTION FACILITY
BDC	BUILDING DISTRIBUTION TELECOMMUNICATIONS ROOM
BDF	BUILDING DISTRIBUTION FRAME
BEF	BUILDING ENTRANCE FRAME
BO	BY OTHERS
CAB	TELECOM CABINET OR ENCLOSURE
CONN	CONNECTOR
CSC	COPPER SPLICE CLOSURE
CVE	CONTROLLED ENVIRONMENT VAULT
FDF	FIBER DISTRIBUTION FACILITY
FS	FIBER SHELF/FIBER TERMINATION PANEL
FSC	FIBER OPTIC SPLICE CLOSURE
HH	HANDHOLE
IDC	INTERMEDIATE DISTRIBUTION TELECOMMUNICATIONS ROOM
IDF	INTERMEDIATE DISTRIBUTION FRAME
ISP	INSIDE PLANT – CABLE WITHIN A BUILDING
IT	INFORMATION TECHNOLOGY
LAN	LOCAL AREA NETWORK
MDC	MAIN DISTRIBUTION TELECOMMUNICATIONS ROOM
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE, MAINTENANCE HOLE
MPOE	MINIMUM POINT OF ENTRY
OCEF	OPTICAL CABLE ENTRANCE FACILITY
OSP	OUTSIDE PLANT – CABLE OUTSIDE A BUILDING
PAV	PAVEMENT
PC	PLASTIC CONDUIT
PG	PAIR GROUP
POP	POINT OF PRESENCE
PR	PAIR
PVC	POLYVINYL CHLORIDE
RU	RACK UNIT
R/W	RIGHT-OF-WAY
SC	SPLICE CLOSURE
SCS	STRUCTURED CABLING SYSTEM
SER	SERIAL
SMR	SURFACE MOUNTED RACEWAY
SS	FIBER SPLICE SHELF
TC	TELECOM CONDUIT
TCH	TELECOM CONDUIT SLEEVE, HORIZONTAL
TCR	TELECOM HORIZONTAL AND VERTICAL RISER CONDUIT
TCT	TELECOM CABLE TRAY
TEC	TELECOM ENTRANCE CONDUIT
TEL	TELEPHONE
TELECOM	TELECOMMUNICATIONS
TERM	TERMINAL
TP	TWISTED PAIR
TPB	TELECOM PULL BOX
TR	TELECOM ROOM
TSL	TELECOM WALL OR FLOOR SLOT
TSV	TELECOM CONDUIT SLEEVE, VERTICAL
WAN	WIDE AREA NETWORK

ELECTRICAL

A or AMP	AMPERE
BND	BOND(ING)
C	CONDUIT
ELEC	ELECTRIC(AL)
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
GRC	GALVANIZED RIGID CONDUIT
GND	GROUND
Hz	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
PB	PULL BOX
PLN	PANEL
PWR	POWER
UPS	UNITERRUPTABLE POWER SUPPLY
V	VOLT
VAC	VOLTS, ALTERNATING CURRENT
VDC	VOLTS, DIRECT CURRENT
W	WATT
XFMR	TRANSFORMER

MEASUREMENTS

BTU	BRITISH THERMAL UNIT
D or Dp	DEEP
DIA	DIAMETER
FT	FOOT or FEET
H or HGT	HEIGHT or HIGH
ID	INSIDE DIAMETER
In	INCH
L	LENGTH or LONG
Lb	POUND
LIN	LINEAR
M	METER
mm	MILLIMETER
OD	OUTSIDE DIAMETER
R	RADIUS
RAD	RADIANS
um	MICRON
W	WIDE
WT	WEIGHT
YD	YARD

DIRECTIONAL

DN	DOWN
E	EAST
HORIZ	HORIZONTAL
L	LEFT
LH	LEFT HAND
N	NORTH
PERP	PERPENDICULAR
R	RIGHT
RH	RIGHT HAND
S	SOUTH
VERT	VERTICAL
W	WEST

SYMBOLS

#	POUND OR NUMBER
&	AND
@	AT
'	FOOT OR FEET
"	INCH OR INCHES
+/- or +	PLUS OR MINUS
<	LESS THAN
=	EQUAL
>	GREATER THAN
°	DEGREES, ANGULAR MEASURE
Ω	OHM
||	PARALLEL
ø	DIAMETER
∠	ANGLE

COLOR CODE

A	ALMOND
B	BROWN
C	CRIMSON RED
E	BLACK
G	GRAY
I	IVORY
L	BLUE
O	ORANGE
P	PURPLE
R	DARK RED
V	GREEN
W	WHITE
Y	YELLOW

GENERAL NOTES

1. REMOVE EXISTING LOUDSPEAKERS. PAINT AND PATCH AREA AS REQUIRED.
2. AUDIO PRESETS:
   A – ALL SPEAKERS ON
   B – COURT SPEAKERS ONLY
   C – HALF COURT INCLUDING BLEACHERS
   D – ALL BLEACHERS ON ONE SIDE

PROJECT NOTES

1 AUDIO CONNECTORS: ALL CONNECTIONS TO SCREW CLAMP OR BINDING POST TERMINALS REQUIRE APPROPRIATELY COLOR CODED FLANGED OR SNAP SPADE TYPE LUGS. BARE WIRE CONNECTED TO A BINDING POST IS NOT ACCEPTABLE. GAS TIGHT INSULATION DISPLACEMENT "PUNCH-DOWN BLOCKS" ARE ACCEPTABLE TERMINAL CONNECTIONS FOR MICROPHONE AND LINE LEVEL INTERCONNECTIONS WITHIN EQUIPMENT ENCLOSURES.

2 LOUDSPEAKER CONNECTORS: ALL CONNECTIONS TO SCREW CLAMP OR BINDING POST TERMINALS REQUIRE APPROPRIATELY COLOR CODED FLANGED OR SNAP SPADE TYPE LUGS. BARE WIRE CONNECTED TO A BINDING POST IS NOT ACCEPTABLE. FOR CONSTANT VOLTAGE SYSTEMS CRIMP CONNECTIONS AT LOUDSPEAKERS ARE ACCEPTABLE, WIRE NUTS ARE NOT.

3 VIDEO CONNECTORS: ALL COAXIAL CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTORS FOR BOTH SHIELD AND INNER CONDUCTOR. INSTALL WITH MANUFACTURER'S APPROVED ASSEMBLY METHODS AND TOOLS. CONNECTORS ATTACHED TO COAXIAL CABLE SHALL BE BNC STYLE CONNECTORS. USE BNC TO VHF ADAPTER OR BNC TO RCA ADAPTER AS APPROPRIATE FOR THE EQUIPMENT BEING CONNECTED.

4 RF CONNECTORS: ALL RF CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTIONS FOR BOTH THE SHIELD AND INNER CONDUCTOR. INSTALL WITH MANUFACTURER'S APPROVED ASSEMBLY METHODS AND TOOLS. CONNECTORS ATTACHED TO RF CABLE SHALL BE 'F' STYLE CONNECTORS.

5 RJ CONNECTORS: ALL RJ CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTIONS. RJ45 CONNECTIONS ARE TO BE MAKE WITH SHIELDED GROUNDING CONNECTORS.

6 SIGNAL GROUNDING: USE THE RACK AS A COMMON POINT OF GROUNDING FOR ALL TECHNICAL SYSTEMS. THE RACK IS TO BE GROUNDED / BONDED TO EARTH. CABLE SHIELDS SHALL ONLY BE USED FOR SHIELDING AND CONNECTED TO GROUND AT THE RACK ONLY. ALL RACK-MOUNTED EQUIPMENT SHALL BE CHECKED FOR GROUND CONTINUITY BETWEEN CHASSIS AND THE RACK.

7 CABLING:

A ALL CABLING IS TO BE CONTINUOUS AND UN-SPLICED.

B CABLING, NOT IN CONDUIT IS TO BE SUPPORTED FROM THE BUILDING STRUCTURE BY J-HOOKS. CABLES ARE NOT TO BE SUPPORTED FROM CEILING WIRES OR OTHER CONVEYANCE SYSTEMS.

C PLENUM RATED CABLES AND CABLE TIES MUST BE USED WHEN CABLES ARE LOCATED IN AN AIR PLENUM.

D CABLES WITHIN RACKS SHALL BE BUNDLED AND LACED NEATLY TO SUPPORT MEMBERS WITH A SERVICE LOOP LARGE ENOUGH TO MAINTAIN CONVENIENT ACCESS TO ALL EQUIPMENT CONNECTIONS.

E EQUIPMENT POWER CABLE IS TO BE SEPARATED FROM SIGNAL CABLES WITH IN ANY ENCLOSURE. PROVIDE THE MAXIMUM SEPARATION POSSIBLE WITHIN THE ENCLOSURE.

8 WIRING: ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NETWORK AND BROADCAST STANDARD PRACTICES. CABLE JACKET SHALL BE COLOR CODED TO MAINTAIN A CONSISTENT IDENTIFICATION OF PHASING.

9 MARKINGS: PERMANENTLY MARK ALL CONNECTORS, CABLES, AND CABLE TERMINATIONS TO INDICATE THEIR FUNCTION AS IT CORRESPONDS TO THE WIRING DIAGRAM. ALL CABLE PAIRS SHALL BE CODED WITH PERMANENTLY ATTACHED LABELS ON THE CABLE ENDS WITH CONSISTENT COLOR-CODED MARKINGS TO INDICATE THEIR FUNCTION. SEE CABLE LABEL DETAIL (DETAIL 5/TA-400).

10 AESTHETICS: COORDINATE THE ELEVATION/LOCATION, FINISH AND COLOR OF ALL PLATES, WALL SWITCHES, FLOOR BOXES AND JUNCTION BOXES WITH THE CONSULTANT.

11 VENTILATION: PROVIDE ADEQUATE VENTILATION IN EQUIPMENT RACKS TO CONFORM TO THE EQUIPMENT MANUFACTURER'S TEMPERATURE REQUIREMENTS.

12 FASTENERS, HANGERS, SUPPORTS: PROVIDE FASTENERS, SUPPORTS AND SEISMIC RESTRAINTS TO ADEQUATELY SUPPORT THE LOAD.

13 WORKMANSHIP: INSTALLATION OF ALL WORK INCLUDING CABLING SHALL BE NEAT. ALL BOXES INCLUDING THE LOUDSPEAKER ENCLOSURES, EQUIPMENT RACKS, ETC. SHALL BE PLUMB AND SQUARELY LOCATED. REPLACE/PATCH ALL CEILING, WALLS AND FLOOR REMOVED OR MODIFIED FOR THIS WORK WHEN THE WORK IS COMPLETE. LEAVE THE JOB SITE CLEAN AND FREE FROM MARKS AND BLEMISHES.

14 DIMENSIONED LOCATIONS: AV DEVICE LOCATIONS ILLUSTRATED WITH DIMENSIONS ARE CRITICAL TO DESIRED PERFORMANCE. CONTRACTOR SHALL NOT FIELD ADJUST LOCATIONS WITHOUT COORDINATING WITH THE DESIGN CONSULTANT.

15 THE FINISH OF ALL AUDIOVISUAL SYSTEM FACEPLATES SHALL BE ANODIZED BRUSHED ALUMINUM. FINAL COLOR TO BE APPROVED BY PROJECT'S OWNER, ARCHITECT, AND/OR CONSULTANT.

16 ALL ENGRAVED LABELS SHALL BE FILLED WITH WHITE OR BLACK AS REQUIRED FOR THE GREATEST CONTRAST BETWEEN THE ENGRAVING AND FACEPLATE/LABEL BACKGROUND COLOR.

GENERAL SYMBOLS

CONDUIT STUB-UP

CONDUIT HOME RUN TO LOCATION

CONDUIT DESTINATION

DETAIL LOCATION ARROW

SHEET NOTE

FACILITY NOTES

1 POWER:

A EACH CIRCUIT THAT SERVES TECHNOLOGY SYSTEMS MUST HAVE A DEDICATED GROUND AND NEUTRAL CONDUCTOR. SHARED GROUNDS AND NEUTRALS ARE NOT ACCEPTABLE.

B ALL CIRCUITS ARE 120 VAC, 60 HZ, 1-PHASE, UON.

C NOMINAL ELECTRICAL VOLTAGE IS 120 VAC. VOLTAGE MUST BE MAINTAINED WITH +/-10 PERCENT OF NOMINAL AT ALL TIMES FOR PROPER EQUIPMENT OPERATION.

2 TECHNOLOGY CONVEYANCE SYSTEM:

A CONDUITS WHICH CARRY POWER MUST BE SEPARATED FROM TECHNOLOGY CONDUITS BY 12 INCHES FOR VOLTAGES OVER 100 VAC, 24 INCHES FOR VOLTAGES OVER 200 VAC AND 48 INCHES FOR ALL VOLTAGES OVER 300 VAC. WHERE POWER AND TECHNOLOGY CABLING AND CONDUIT CROSS, THEY SHOULD DO SO AT RIGHT ANGLES.

B ALL CONDUIT SHALL BE CLEANED, DEBURRED AND HAVE PULL-STRINGS INSTALLED.

C ALL INTERIOR AND ABOVE GRADE CONDUIT SHALL BE SOLID FERRIC METALLIC. ALL CONDUIT BELOW GRADE SHALL BE PLASTIC. CONTRACTOR SHALL NOT CHANGE CONDUIT TYPE WITHOUT DESIGN CONSULTANT APPROVAL.

D PROVIDE PULL BOXES USING SWEEP ELBOWS AS REQUIRED BY CONDUIT PATH, CABLE BEND RADIUS OR PULLING TENSION LIMITS.

E BACK BOXES TO BE SET TO ALLOW ALL TECHNOLOGY FACEPLATES TO BE INSTALLED TIGHT TO THE ADJACENT SURFACE.

3 PRIOR TO THE START OF ACTIVE EQUIPMENT INSTALLATION THE EQUIPMENT SPACES SHALL BE:

A CLEAN AND SEALED FROM DUST PRIOR TO EQUIPMENT INSTALLATION.

B MAINTAINED AT A TEMPERATURE OF 72 ± 10 DEGREES FAHRENHEIT AT ALL TIMES.

C MAINTAINED AT A RELATIVE HUMIDITY BETWEEN 40 AND 70 PERCENT AT ALL TIMES.

4 OWNER TO PROVIDE AND INSTALL ALL PHONE, DATA , CABLE AND NETWORK LINES.

5 ALL BLOCKING TO BE PROVIDED BY GC

6 VENTS, GRILLS AND GROMMETS PROVIDED BY THE CASEWORK/MILLWORK VENDOR.

PROJECT SYMBOLS

AV RACK (OFE)

FLOOR BOX (OFE)
SEE DETAIL XX/TA-601

LOUDSPEAKER CEILING BOX FOR LINE ARRAY SPEAKERS
MODEL: CBT 70J-1
2-GANG 2-1/2" DEEP BOX PROVIDED BY EC

LOUDSPEAKER CEILING BOX FOR COURT LOUDSPEAKERS
MODEL: JBL CONTROL 29AV-1
2-GANG 2-1/2" DEEP BOX PROVIDED BY EC

SHEET INDEX

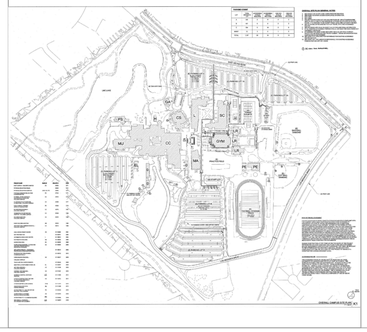
DRAWINGS ISSUED LOG

NUMBER	DRAWING NAME	5-22-2018 100% DD	6-29-2018 CONSTRUCTION SET				
TA-001	SHEET INDEX AND NOTES	X	X				
TA-101	FLOOR PLAN	X	X				
TA-201	REFLECTED CEILING PLAN	X	X				
TA-301	SECTIONS AND ELEVATIONS	X	X				
TA-401	GYMNASIUM AUDIO AND VIDEO FUNCTIONAL	X	X				
TA-501	RACK DETAILS	X	X				

N

SHEET NOTES

KEY PLAN



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CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE L-638 GYMNASIUM AUDIO SYSTEM

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OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

SHEET TITLE

SHEET INDEX AND NOTES

SHEET NUMBER

TA-001

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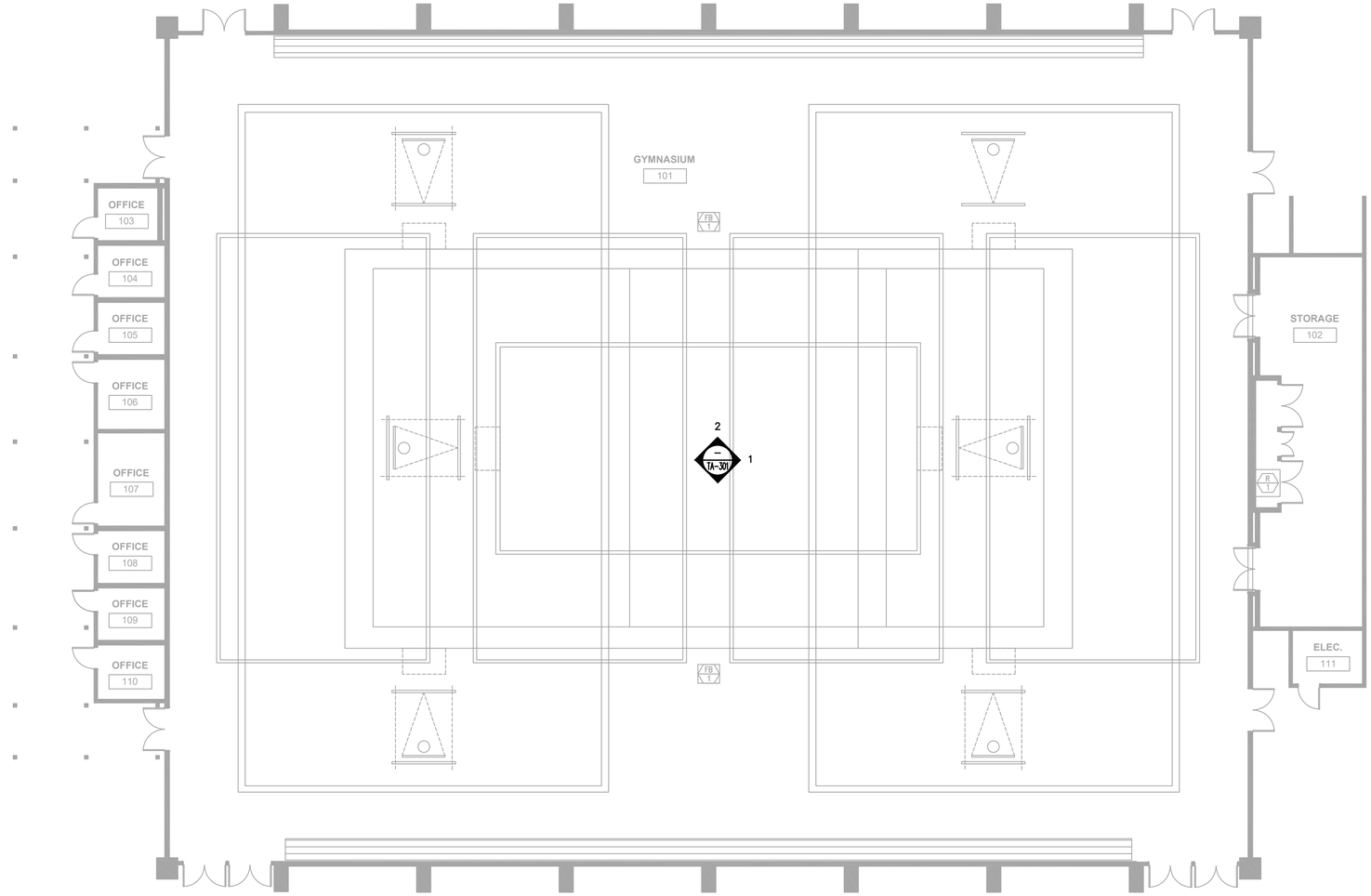


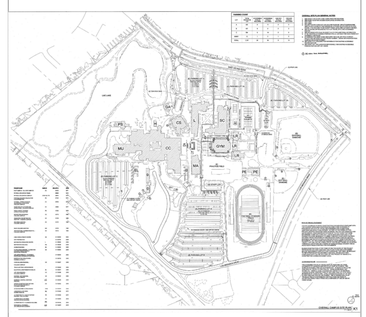
FLOOR PLAN

SCALE: 1/8" = 1'-0"

1

SHEET NOTES

KEY PLAN



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CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE
L-638 GYMNASIUM
AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

SHEET TITLE

FLOOR PLAN

SHEET NUMBER

TA-101

PLOT DATE: 5/10/2018 1:25:36 PM J:\115448_CCC_LMC_Gym_AV\5.9 Drawings\5Barch\current\ATW-11t

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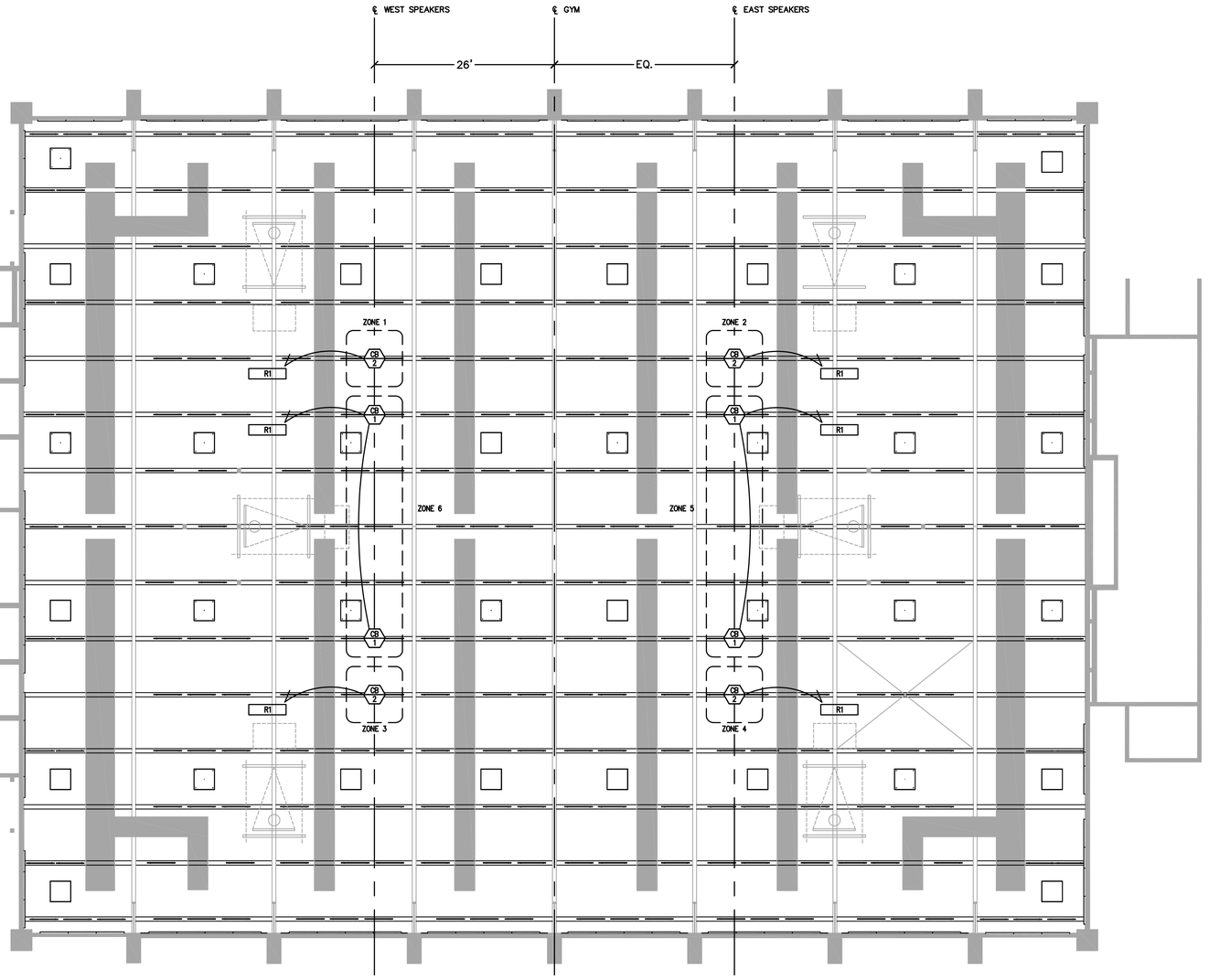


REFLECTED CEILING PLAN

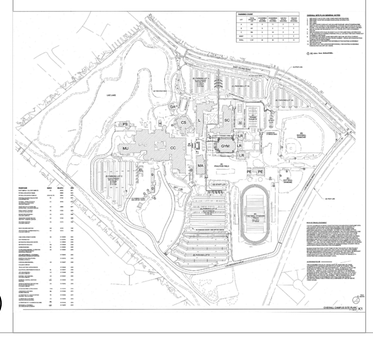
SCALE: 1/8" = 1'-0"

1

SHEET NOTES

1. ALL CONDUIT SHALL BE 1-1/4" UON.

KEY PLAN



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ARCHITECTURE PLANNING

San Jose
333 W. San Carlos St., Suite 600
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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 025217 ENGINEER STEVEN J. THORBURN

REVISIONS

NO.	DATE	APPRD.	DESCRIPTION

CONSULTANT

THORBURN ASSOCIATES
ACOUSTICAL, TECHNOLOGY, AND LIGHTING DESIGN
PO Box 20399 Castro Valley, CA 94546
San Francisco Area Office : 510.886.7826
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Orlando Area Office : 818.535.1180
Raleigh-Durham Area Office : 919.463.9905
Charlotte Area Office: 704.334.1040

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE L-638 GYMNASIUM AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

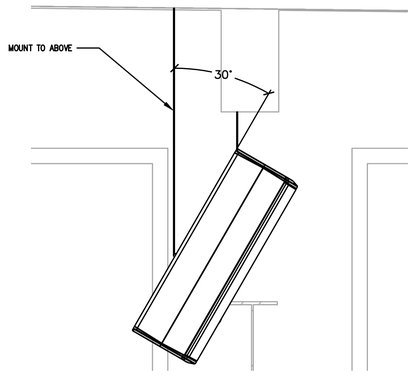
SHEET TITLE

REFLECTED CEILING PLAN

SHEET NUMBER

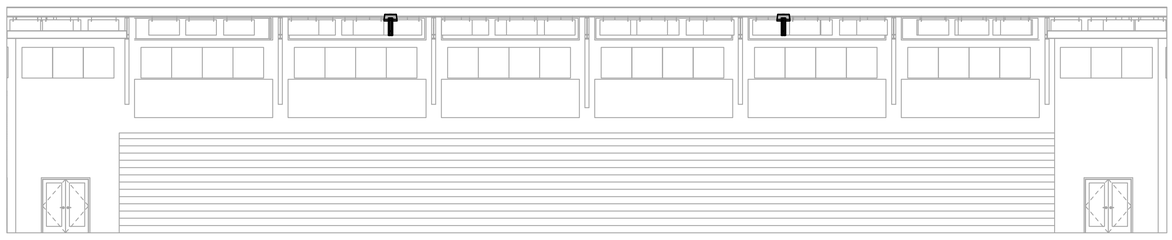
TA-201

PLOT DATE: 5/10/2018 1:25:36 PM J:\115448_CCC_LMC_Gym_AV\5.9 Drawings\Sheet\current\ATW-115_V2016_option2.rvt



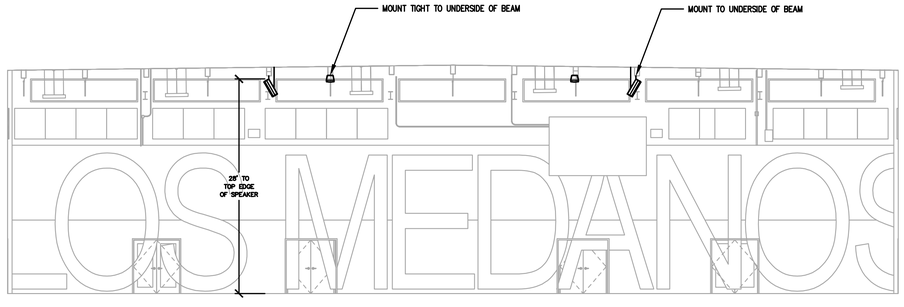
LINE ARRAY SPEAKER AIMING DETAIL 3

SCALE: 1–1/2" = 1'–0"



NORTH ELEVATION 2

SCALE: 1/8" = 1'–0"

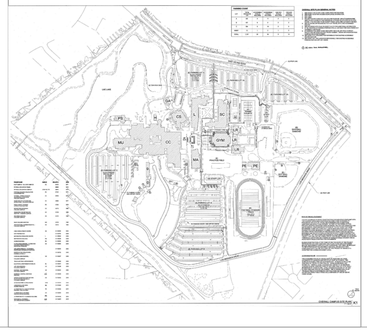


EAST ELEVATION 1

SCALE: 1/8" = 1'–0"

SHEET NOTES

KEY PLAN



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CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE
L-638 GYMNASIUM
AUDIO SYSTEM

2700 E. LELAND ROAD,
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OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

SHEET TITLE

INTERIOR ELEVATIONS

SHEET NUMBER

TA-301

PLOT DATE: 5/10/2018 1:25:36 PM J:\115448_CCC_LMC_Gym_AV\5.9 Drawings\5Sarch\current\ATAV-11!

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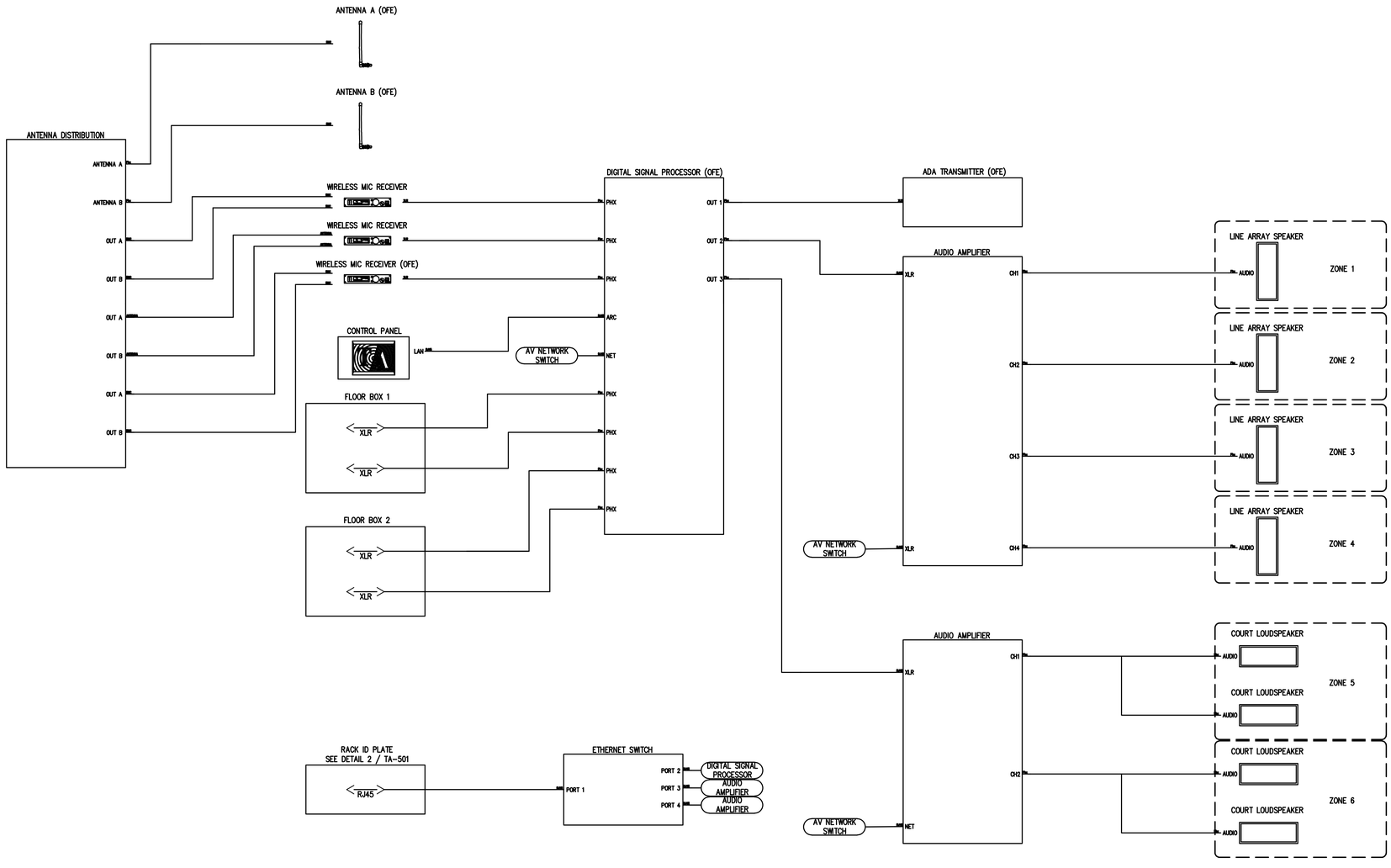
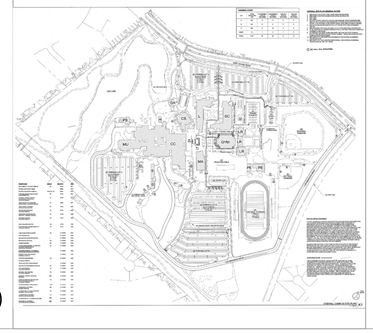


FUNCTIONAL

1

SHEET NOTES

KEY PLAN



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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 025417 ENGINEER STEVEN J. THORBURN

REVISIONS

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CONTRA COSTA COMMUNITY COLLEGE DISTRICT

LOS MEDANOS COLLEGE

LOS MEDANOS COLLEGE
L-638 GYMNASIUM
AUDIO SYSTEM

2700 E. LELAND ROAD,
PITTSBURG, CA 94565

OPSC or OSHPD PROJ. NO:	
PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

SHEET TITLE

FUNCTIONALS

SHEET NUMBER

TA-401

PLOT DATE: 5/10/2018 1:25:36 PM J:\115448_CCC_LMC_Gym_AVS\9 Drawings\99arch\current\ATW-11\

\V2016_option2.rvt

ENGINEERED BY: THORBURN ASSOCIATES
ACOUSTICAL, TECHNOLOGY, AND LIGHTING DESIGN
www.TA-Inc.com

INSTALLED BY: INSTALLATION COMPANY
STREET ADDRESS
CITY, STATE ZIP

AV NETWORK

RACK ID PLATE
SCALE: 1'-0" = 1'-0"

2

16	OFE Control Panel	1
15		2
14		3
13	Logo Panel	4
12	Ethernet Switch (rear)	5
11	Power Sequencer	6
10	Antenna Distribution	7
9	Wireless Mic Rx/Wireless Mic Rx	8
8	OFE Wireless Mic Rx / ALS Tx	9
7		10
6	DSP	11
5		12
4	Amplifier	13
3		14
2	Amplifier	15
1		16

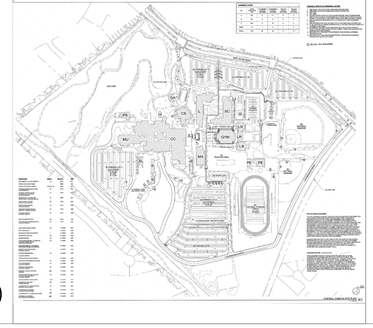
N

RACK ELEVATION
SCALE: NTS

1

SHEET NOTES

KEY PLAN



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LOS MEDANOS COLLEGE

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L-638 GYMNASIUM
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PROJECT NO:	115448
DRAWN BY:	DLL
CHK'D BY:	JLL
ISSUE DATE:	06-29-2020

SHEET TITLE

RACK ELEVATIONS

SHEET NUMBER

TA-501

PLOT DATE: 5/10/2018 1:25:36 PM J:\115448_CCC_LMC_Gym_AV\5.9 Drawings\5Sarch\current\ATW-11!

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