

BID DOCUMENTS & SPECIFICATIONS FOR:

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PHASE 1 - FIRE SPRINKLER SYSTEM REPAIR/REPLACEMENT  
AT THE HIARNG, RTI, BELLOWS AIR FORCE STATION, OHAU,  
STATE OF HAWAII, DEPARTMENT OF DEFENSE, HAWAII ARMY  
NATIONAL GUARD, JOB NO. CA-202006-C  
(BID3)

ISSUED BY:  
STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAI'I 96816-4495  
TELEPHONE: 808.369.3567

August 23, 2023

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### Files Attached:

01\_15200006.CA202006C-RTI-FSSReplacement-Design-Spec-FINAL-2023AUG03

02\_15200006.CA202006C-RTI-FSSReplacement-Design-Dwg-FINAL-2023AUG03

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

**NOTICE TO BIDDERS**

SEALED BIDS for furnishing labor, materials, tools and equipment for "**PHASE 1 - FIRE SPRINKLER SYSTEMS REPAIR/REPLACEMENT AT THE HAWAII ARMY NATIONAL GUARD (HIARNG), REGIONAL TRAINING INSTITUTE (RTI), BELLOWS AIR FORCE STATION, WAIMANALO, OAHU, STATE OF HAWAII, DEPARTMENT OF DEFENSE, HAWAII ARMY NATIONAL GUARD, JOB NO. CA-202006-C (BID3)**" will be received in the Engineering Office, State of Hawaii, Department of Defense, located in Building 306-A, Room 228, 3949 Diamond Head Road, Honolulu, Hawaii, up to **2:00 P.M. on Wednesday, September 20, 2023** and will then and there be publicly opened and read aloud. Bids may also be mailed to State of Hawaii, Department of Defense, 3949 Diamond Head Road, Honolulu, HI, 96816-4495, **ATTN: HIENG**. Bids must be received in the Engineering Office, Room 228, prior to the time and date fixed for opening to be considered. All bids received in the Engineering Office after the time and date fixed for opening will not be considered.

Bidders are advised that the Department of Defense facility at 3949 Diamond Head Road is a secure facility. To access the property, Bidders and/or their authorized personnel shall present a current driver's license or other form of official identification (with photograph) to the security personnel at the entry gate and shall inform the security personnel of the building and room number they require access to (State Engineering Contracting Section 808-369-3567). Lack of official identification or knowledge of the building and room to which access is needed are grounds for denial of access onto the property. Bidders should be aware and allow for security screening and random vehicle inspections. The state will not be responsible for late bids due to the afore mentioned reasons.

Proposed work consists of, but not limited to the following: Demo or remove and replace existing fire risers, add new air vent into each existing bldg.'s fire sprinkler system, remove & replace corroded pipe sections (including various components & fittings) within each bldg.'s fire sprinkler system and provide & install a nitrogen inerting system onto each fire riser and complete nitrogen inerting's into each building's existing (repaired) fire sprinkler system.

The estimated cost is between \$2,500,000.00 and \$2,750,000.00.

A site visit will be held on **Wednesday, September 6, 2023, at 10:00 A.M.** Base pass is not required, however, bidders and/or their authorized personnel shall present a current driver's license or other form of official identification (with photograph) to the Guard Gate. Contractors are to meet HIARNG FMO-Project Manager (PM) at Guard Gate entrance to Bellows Regional Training Center (RTI), 711 Tinker Road, Waimanalo, HI 96795 at 9:45 A.M. Please call Mindi Lum, FMO-PM at 808-294-9680 no later than 10:00 A.M. on Friday, September 1, 2023, to register for the site visit. If no answer, please leave your company information, attendees names and a contact number, you may assume that you are registered for the site visit. All interested bidders and sub-contractors are welcome, but not required to attend.

Bona fide bidders may obtain copies of applicable specifications and bidding documents at the above-named office. Documents may also be downloaded from the State Procurement Office website at <http://spo.hawaii.gov/> and at the State Department of Defense website at <http://dod.hawaii.gov/hieng/>. If prospective bidders obtain copies of the bid documents from sources other than the Contracting and Engineering Office address listed above, then bidders are responsible to

register by sending their company name, address, telephone and facsimile number, and email address via e-mail to [ernett.m.kitzmiller-maihui@hawaii.gov](mailto:ernett.m.kitzmiller-maihui@hawaii.gov).

If you need an auxiliary aid/service or other accommodations due to a disability, contact Ernett K. Maihui at 808-369-3487 or by e-mail at [ernett.m.kitzmiller-maihui@hawaii.gov](mailto:ernett.m.kitzmiller-maihui@hawaii.gov) as soon as possible, preferably by September 1, 2023. If a response is received after September 1, 2023, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be fulfilled. Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

Requests for Information (RFI), substitution, clarification of bidding documents and/or specifications **must** be received in the office listed above, via e-mail, prior to **4:30 P.M. on September 8, 2023**. Questions shall be e-mailed to [ernett.m.kitzmiller-maihui@hawaii.gov](mailto:ernett.m.kitzmiller-maihui@hawaii.gov).

Late submittals for this solicitation will not be reviewed by this agency.  
An Intent to Bid is NOT required to be submitted for this project.

Bidders are required to register on the Hawaii Compliance Express web site for all tax clearances by going to <http://spo.hawaii.gov/> click on "HCE" and registering there.

Bidders are responsible for checking for any addenda for this project. The addenda will be posted on the State Procurement Office web site under the project name at <http://spo.hawaii.gov/>.

The Hawaii Products preference pursuant to ACT 175, SLH 2009 may be applicable for numerous items throughout this solicitation. Persons wishing to certify and qualify a product not currently listed as a Hawaii Product shall submit a Certification for Hawaii Product Preference (form SPO-38) by e-mail to [ernett.m.kitzmiller-maihui@hawaii.gov](mailto:ernett.m.kitzmiller-maihui@hawaii.gov) prior to 4:30 P.M. 15 days prior to the bid opening date for this project. View the current Hawaii Products List on the State Procurement office (SPO) website at <http://hawaii.gov/spo>.

For each product, one form shall be completed and submitted (i.e., 3 products should have 3 separate forms completed). The form is available on the SPO webpage at <http://hawaii.gov/spo>.

**CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS PROHIBITED.** If awarded a contract in response to this solicitation, offeror agrees to comply with HRS §11-355, which states that campaign contributions are prohibited from a State and County government contractor during the term of the contract if the contractor is paid with funds appropriated by the legislative body between the execution of the contract through the completion of the contract.

#### **REQUIREMENT FOR CONTRACTORS LICENSING CLASSIFICATIONS**

Bidders are solely responsible to review the project requirements, determine the appropriate licenses required, and ensure that they possess, and that the Subcontractor(s) listed in their OFFER FORM possess the necessary General and/or Specialty licenses to perform the work for this project.

General Engineering Contractors holding an 'A' license and General Building Contractors holding a 'B' license are reminded that due to the Hawaii Supreme Court's January 28, 2002, decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the General Contractor to act as a specialty Contractor in any area in which the General Contractor has no license.

Kenneth S. Hara  
Major General  
Adjutant General

Posted on: August 23, 2023

**FIRE SPRINKLER SYSTEMS REPAIR/REPLACEMENT AT THE HAWAII ARMY NATIONAL GUARD (HIARNG), REGIONAL TRAINING INSTITUTE (RTI), BELLOWS AIR FORCE STATION, WAIMANALO, OAHU, STATE OF HAWAII, DEPARTMENT OF DEFENSE, HAWAII ARMY NATIONAL GUARD, JOB NO. CA-202006-C (BID3)**

Adjutant General  
State Department of Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

Dear Sir:

The undersigned has carefully read and understands the terms and conditions specified in the Specifications, and all documents attached hereto, and hereby submits the following offer to perform the work specified herein, all in accordance with the true intent and meaning thereof. The undersigned further understands and agrees that by submitting this offer, 1) he/she is declaring his/her offer is not in violation of Chapter 84, Hawaii Revised Statutes, concerning prohibited State contracts, and 2) he/she is certifying that the price(s) submitted was (were) independently arrived at without collusion.

The undersigned represents: **(Check  one only)**

- A **Hawaii business** incorporated or organized under the laws of the State of Hawaii, **OR**
- A **Compliant Non-Hawaii business** not incorporated or organized under the laws of the State of Hawaii. Business shall be registered prior to award at the State of Hawaii Department of Commerce and Consumer Affairs Business Registration Division to do business in the State of Hawaii. State of incorporation: \_\_\_\_\_

Offeror is:

- Sole Proprietor     Partnership     Corporation     Joint Venture
- Other \_\_\_\_\_

Federal I.D. No.: \_\_\_\_\_  
Hawaii General Excise Tax License I.D. No.: \_\_\_\_\_

Payment address (other than street address below): \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_

Business address (street address): \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_

Respectfully submitted:

**(x)** \_\_\_\_\_  
Authorized (Original) Signature (\*1)

Date: \_\_\_\_\_

Telephone No.: \_\_\_\_\_  
Name and Title (Please Type or Print)

\* \_\_\_\_\_  
**Exact Legal Name of Company (Offeror) (\*2)**

Fax No.: \_\_\_\_\_

**(\*2)** If Offeror is a "dba" or a "division" of a corporation, furnish the exact legal name of the corporation under which the awarded contract will be executed:

E-mail Address: \_\_\_\_\_

(\*1) Original signature in ink. If unsigned or the affixed signature is a facsimile or a photocopy, the offer shall be automatically rejected unless accompanied by other material, containing an original signature, indicating the Offeror's intent to be bound.

[BIDDER'S INSTRUCTIONS: Fill in the total lump sum bid price in numbers and write out the total lump sum bid price in words. Prices shall be written in ink or typed.]

(Including the cost of delivery, unloading, freight charges, all applicable taxes, and other cost involved) and will fully complete all the work under this contract from the date of commencement specified by the written Notice to Proceed order.

The undersigned has carefully examined the attached plans and specifications and hereby proposes to furnish at his own expense all labor, materials, tools, and equipment necessary to construct all work as shown and called for, in strict accordance with the specifications, schedules and drawings pertaining thereto, all for the LUMP SUM of each of the following buildings:

The undersigned hereby provides a breakdown of the LUMP SUM amount.

BID ITEM	DESCRIPTION	LUMP SUM
<b>PROJECT BID TOTAL (BID ITEMS 1-5)</b>  _____  _____ DOLLARS		\$ _____  _____
1	<b>B711 – ADMINISTRATION BUILDING</b>  <div style="text-align: right;"><b>BID ITEM 1 – Subtotal</b></div>	\$ _____  _____
2	<b>B711 - Classroom Building</b>  <div style="text-align: right;"><b>BID ITEM 2 – Subtotal</b></div>	\$ _____  _____
3	<b>B712 – Mess Hall</b>  <div style="text-align: right;"><b>BID ITEM 3 – Subtotal</b></div>	\$ _____  _____
4	<b>B713 - Auditorium</b>  <div style="text-align: right;"><b>BID ITEM 4 – Subtotal</b></div>	\$ _____  _____
5	<b>B714 – Billet A and Breezeway (Gym and Laundry Room)</b>  <div style="text-align: right;"><b>BID ITEM 5 – Subtotal</b></div>	\$ _____  _____

**Conditions:**

1. This project falls under the requirement of the "Buy American Act".
2. Davis-Bacon Act prevailing wage rate or State wage rates apply to this contract.
3. The award of the contract shall be made to the responsible bidder whose total bid is the lowest.
4. The State reserves the right to determine the extent of the contract by selecting and/or omitting bid items (not necessarily in sequence) to the extent required to come within the funds available for the project.
5. The Surety shall not be held liable beyond two (2) years of the project acceptance date.

## HAWAII PRODUCTS PREFERENCE

In accordance with ACT 175, SLH 2009 the Hawaii Products preference is applicable to this solicitation. Hawaii products may be available for those items noted on the offer form. The Hawaii Products List is available on the State Procurement Office (SPO) website at <http://spo.hawaii.gov> search for "Hawaii Product Preferences".

Offeror offering a Hawaii Product (HP) shall identify the HP on the solicitation offer pages. Any person desiring a Hawaii product preference shall have the product(s) certified and qualified if not currently on the Hawaii Products list, prior to the deadline for receipt of offer(s) specified in the procurement notice and solicitation. The responsibility for certification and qualification shall rest upon the person requesting the preference.

Persons desiring to qualify their product(s) not currently on the Hawaii Product list shall complete form SPO-38, *Certification for Hawaii Product Preference*, and submit to the Department of Defense, Contracting Officer, and provide all additional information required by the Contracting Officer no later than 4:30pm, fifteen (15) calendar days prior to the bid opening date. For each product, one form shall be completed and submitted (i.e. 3 products should have 3 separate forms completed). The form is available on the SPO webpage at <http://spo.hawaii.gov> search for "Forms" and select form SPO-38.

Late submittals for this project will not be reviewed by the Department.

### Change in Availability of Hawaii Product

In the event of any change that materially alters the offeror's ability to supply Hawaii Products, the offeror shall immediately notify the Contracting Officer in writing and the parties shall enter into discussions for the purposes of revising the contract or terminating the contract for convenience.

Offerors shall indicate in the Hawaii Product Schedule below whether the pre-approved Hawaii Products are offered. Offerors offering a Hawaii Product shall fill-in the quantity, unit measure, unit price and total price for the Hawaii Product they desire to be considered for preference. Products not pre-approved shall not be considered. Hawaii Products not meeting the requirements of the specification shall not be considered.

Offerors selecting the Hawaii Product preference may be required to submit additional information on the cost basis of their selected Hawaii Product preference items when requested after the bid opening to verify cost of the Hawaii Products, including the computations for the estimated quantities, manufacturers or supplier's quotations, and delivered material cost Free on Board (FOB) at the jobsite. The Hawaii Product Cost shall not include installation costs.



**Hawaii Products available for this project are as follows:**

Product Description	Class I, II or III	Manufacturer	Cost
			\$
			\$
			\$
			\$
			\$
			\$
			\$

**APPRENTICESHIP AGREEMENT PREFERENCE (Act 17, SLH 2009)**

The estimated value of the public works contract is \$250,000 or more and the apprenticeship agreement preference pursuant to Hawaii Revised Statutes §103-55.6 (Act 17, SLH 2009) **shall apply**.

1. If applicable to this project, any bidder seeking the preference must be a party to an apprenticeship agreement registered with the State Department of Labor and Industrial Relations (DLIR) at the time the bid is submitted for each apprenticeable trade the bidder will employ to construct the project. "Employ" means the employment of a person in an employer-employee relationship.
  - a. The apprenticeship agreement shall be registered with the DLIR and conform to the requirements of Hawaii Revised Statutes Chapter 372.
  - b. Subcontractors do not have to be a party to an apprenticeship agreement for the bidder to obtain the preference.
  - c. The bidder is not required to have apprentices in its employ at the time the bid is submitted to qualify for the preference.
  
2. Certification of Bidder's Participation Apprenticeship Program (Form 1): A bidder seeking the preference must state the apprenticeable trade the bidder will employ for each trade to be employed to perform the work by submitting a completed **signed original** *Certification of Bidder's Participation – Form 1* verifying participation in an apprenticeship program registered with the DLIR. "Apprenticeable trade" shall have the same meaning as "apprenticeable occupation" pursuant to Hawaii Administrative Rules (HAR) §12-30-5.
  - a. The *Certification of Bidder's Participation - Form 1* shall be authorized by an apprenticeship sponsor listed on the DLIR list of registered apprenticeship

programs. "Sponsor" means an operator of an apprenticeship program and in whose name the program is approved and registered with the DLIR pursuant to HAR §12-30-1.

- b. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor.
  - c. The completed *Certification of Bidder's Participation – Form 1* for each trade must be submitted with the bid. A facsimile or copy is acceptable to be submitted with the bid, however the signed original must be submitted within five (5) working days of the bid open date. If the signed original is not received within this timeframe, the preference may be denied. Previous certifications shall not apply.
  - d. When filling out the *Certification of Bidder's Participation – Form 1*, the name of Apprenticeable Trade and Apprenticeship Sponsor must be the same as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website. "Registered apprenticeship program" means a construction trade program approved by and registered with the DLIR pursuant to HAR § 12-30-1 and §12-30-4.
  - e. The *Certification of Bidder's Participation – Form 1* and the List of Construction Trades in Registered Apprenticeship Programs is available on the DLIR website at: <http://hawaii.gov/labor/wdd>.
3. Upon receiving the *Certification of Bidder's participation – Form 1*, the Procurement Officer will verify that the apprenticeship program is on the List of Construction Trades in Registered Apprenticeship Programs and that the form is signed by an authorized official of the Apprenticeship Program Sponsor. If the programs and signature are not confirmed by the DLIR, the bidder will not qualify for the preference.
  4. If the bidder is certified to participate in an apprenticeship program for each trade which will be employed by the bidder for the project, a preference will be applied to decrease the bidder's bid amount by five (5) percent for evaluation purposes.
  5. Should the bidder qualify for other preferences (for example, Hawaii Products), all applicable preference shall be applied to the bid price.
  6. If the winning bidder has submitted Form 1 with his bid packet, the Form 2 will be required the first week of each month for the prior month beginning with the month of the start of work.

## CHARACTER OF WORKERS OR EQUIPMENT

The Contractor shall perform with his own organization, work amounting to not less than twenty percent (20%) of the total contract cost. The Engineer may require the Contractor to verify the percentage of work he will be providing with his own organization by furnishing pertinent information such as all the actual subcontractor(s)' quotations he received for the bid. If requested, the Contractor shall provide such verification within 5 working days of the request.

## CERTIFICATION FOR SAFETY AND HEALTH PROGRAM FOR BIDS IN EXCESS OF \$100,000

In accordance with HRS 396-18, by submitting this proposal, the undersigned certifies that his company will have a written safety and health plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational Safety and Health Division (HIOSH).

## TAX CLEARANCES FROM THE STATE DIRECTOR OF TAXATION AND INTERNAL REVENUE SERVICE

Contractors are required to provide a state and federal tax clearance as a prerequisite to entering into a public contract of \$2,500 or more. To meet this requirement, all bidders shall submit valid tax clearances with their bid proposals when the bid is \$2,500 or more.

Failure to submit the required tax clearance may be sufficient grounds for the State to refuse to receive or consider the prospective bidder's proposal.

In accordance with Act 190 Amendment to HRS 103D-310(c), required as a prerequisite to entering into a contract, the contractor shall register on the Hawaii Compliance Express web site for all tax clearances by going to <http://vendors.ehawaii.gov> and registering there.

A Certificate of Vendor Compliance generated from this website should be included with their bid proposal. A Compliant status is required prior to awarding the contract.

## LICENSE

Bidders are solely responsible to review the project requirements, determine the appropriate licenses required, and ensure that they possess, and that the Subcontractor(s) listed in their OFFER FORM possess the necessary General and/or Specialty licenses to perform the work for this project.

General Engineering Contractors holding an 'A' license and General Building Contractors holding a 'B' license are reminded that due to the Hawaii Supreme Court's January 28, 2002, decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project,

which would require the General Contractor to act as a specialty Contractor in any area in which the General Contractor has no license.

1. The Adjutant General or his designated representative reserves the right to reject any and/or all bids and waive any defects when, in his opinion, such rejection or waiver will be in the best interest of the State.
2. The award of the contract shall be conditioned upon funds being made available for these projects and further upon the right of the Adjutant General or his designated representative to hold all bids received for a period of ninety (90) days from the date of the opening thereof, unless otherwise required by law, during which time no bid may be withdrawn.
3. The liquidated damages per working day for failure to complete the work on time shall be **\$220.00** per working day or as stipulated in the General Conditions, whichever is higher.
4. By submitting this proposal, the undersigned is declaring his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past two years.
5. Upon the acceptance of the proposal by the Adjutant General or his designated representative, the undersigned must enter into and execute a contract for the same and furnish a bond, as required by law. This bond shall conform to the provisions of Section 103D-324 of the Hawaii Revised Statutes and any law applicable thereto.
6. If the lowest bid received by the State exceeds the funds available for this project, the State reserves the right to negotiate with the lowest responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, as amended, to reduce the scope of work and award a contract, therefore.
7. This contract may be awarded as an informal contract as determined by the Adjutant General or his designated representative in accordance with the applicable Hawaii Revised Statutes as amended, whereby a purchase order will be executed and used as the formal contract.

Receipt of the following addenda issued by the Department is acknowledged by the day(s) of the receipt indicated below:

Addendum No. 1 \_\_\_\_\_ Addendum No. 2 \_\_\_\_\_  
Date \_\_\_\_\_ Date \_\_\_\_\_

Addendum No. 3 \_\_\_\_\_ Addendum No. 4 \_\_\_\_\_  
Date \_\_\_\_\_ Date \_\_\_\_\_

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this Proposal as submitted. (See Special Notice to Bidders for information regarding addenda.)

ALL JOINT CONTRACTORS & SUBCONTRACTORS TO ENGAGE ON THIS PROJECT

The bidder certifies that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawaii Revised Statutes, who will be engaged by the bidder on this project to perform the nature and scope of work indicated pursuant to Section 103D-302, Hawaii Revised Statutes, and understands that failure to comply with this requirement shall be just cause for rejection of the bid.

The bidder further certifies that only those joint contractors or subcontractors listed shall be allowed to perform work on this project and that all other work necessary shall be performed by the bidder with his own employees. If no joint contractor or subcontractor is listed, it shall be construed that all the work shall be performed by the bidder with his own employees.

All bidders must be sure that they possess and that the subcontractors listed in the proposal possess all the necessary specialty licenses needed to perform the work for this project. The bidder shall be solely responsible for assuring that all of the specialty licenses required to perform the work is covered in his bid.

The bidder shall include the license number of the joint contractors or subcontractors listed below. Failure to provide the correct names and license numbers as registered with the Contractor's Licensing Board may cause rejection of the bid submitted.

Complete Firm Name of Joint Contractor or Subcontractor for Lump Sum Bid	License Number	Nature and Scope of Work to be performed.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Enclosed herewith as required by law:

- Surety Bond
- Certificate of Deposit
- Certified Check
- Cashier's Check
- Share Certificate
- Legal Tender
- (Cross Out Those Not Applicable)

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_).

\_\_\_\_\_  
\*Signature HAWAII GENERAL EXCISE TAX  
Title \_\_\_\_\_ I.D. NO. \_\_\_\_\_

\_\_\_\_\_  
Name of Company

\_\_\_\_\_  
Address LICENSE CLASSIFICATION  
\_\_\_\_\_  
AND/OR SUBCLASSIFICATION  
\_\_\_\_\_  
NO.

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Date

(CORPORATE SEAL)

\*Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company, and the names and residence addresses of all officers of the Company.

NOTE: Fill in all blank spaces with the information asked for or bid may be invalidated.  
PROPOSAL PAGES MUST BE INTACT; MISSING PAGES MAY INVALIDATE YOUR BID.

# FORM 1

## CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17

<b>I. Bidder's Identifying Information</b>			
A. Legal Business Name: _____			
B. Project Bid Title & Reference No.: _____			
C. Contact Person's Name: _____			
1. Phone No.: _____		2. E-Mail: _____	
<b>II. Apprenticeable Trades To Be Employed*</b>	<b>B. Apprenticeship Sponsor*</b>	<b>C. No. Enrolled</b>	<b>D. No. Completed</b>
A. (List)	(One Sponsor Per Form)	(# of apprentices currently enrolled as of bidder's request date)	(# of apprentices who completed the apprenticeship program in the 12 months prior to request date)
1.			
2.			
3.			
4.			
5.			
6.			
<b>III. Bidder's Certification</b>			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the preference under Act 17 and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference.			
_____		_____	
A. Name (Type)		B. Title	
_____		_____	
C. Signature (original signature required)		D. Date	
<b>IV. Apprenticeship Sponsor's Contact Information</b>			
A. Training Coordinator's Name: _____			
B. Address: _____			
C. Phone No.: _____		D. E-Mail: _____	
		E. Fax No: _____	
<b>V. Apprenticeship Program Sponsor's Certification</b>			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the bidder's preference and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference under Act 17.			
_____		_____	
A. Name of Authorized Official		B. Title	
_____		_____	
C. Signature (original signature required)		D. Date	

\* Name of Apprenticeable Trade and Apprenticeship Sponsor must be the *same* as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website.

(Name of Corporation)  
Corporate Resolution

I, \_\_\_\_\_, Secretary of \_\_\_\_\_  
Corporation,  
a \_\_\_\_\_ Corporation, do hereby certify that the following is a full, true  
and correct copy of a resolution duly adopted by the Board of Directors of said corporation, at its  
meeting duly called and held at the office of the Corporation \_\_\_\_\_  
Street, \_\_\_\_\_, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, at  
which a quorum was present and acting throughout, and that said resolution has not been  
modified, amended or rescinded and continues in full force and effect:

“RESOLVED that any individual at the time holding the position of President, Vice  
President, Secretary or Treasurer be, and each of them hereby is, authorized to execute on behalf  
of the Corporation any bid, proposal or contract for the sale or rental of the products of the  
Corporation or for services to be performed by the Corporation, and to execute any bond  
required by any such bid, proposal or contract with the United States Government or the State of  
Hawaii or the City and County of Honolulu, or any County or Municipal Government of said  
State, or any department or subdivision of any of them.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of said  
\_\_\_\_\_ Corporation this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Secretary

(Names and Address of:)

President:

Vice President:

Secretary:

Treasurer:



## SPECIAL NOTICE TO BIDDERS - CONSTRUCTION

QUALIFICATIONS OF BIDDERS - Prospective bidders must be capable of performing the work for which bids are being called.

The Department of Defense no longer requires a submittal of "INTENTION TO BID" unless otherwise stated in the notice to bidders.

If two (2) or more prospective bidders desire to bid jointly as a joint venture on a single project, they must file an affidavit of joint venture with their notice of intention to bid or if no intent to bid is required, shall submit an affidavit of joint venture prior to bid opening. Such affidavit of joint venture will be valid only for the specific project for which it is filed. No further license is required when all parties to the joint venture possess current and appropriate contractor's licenses. Joint venture are required to be licensed in accordance with Chapter 444 of the Hawaii Revised Statutes, as amended, and the rules and regulations of the Contractor's License Board when any party to the joint venture agreement does not hold a current or appropriate contractor's license.

The Adjutant General or his designated representative may, in accordance with Section 103D-310, Hawaii Revised Statutes, require the prospective bidder to submit answers to questions in the "Standard Questionnaire and Financial Statement for Bidders," on the form provided by the Department, properly executed and notarized, setting forth a complete statement of the experience of such prospective bidder and his organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment, at least forty-eight (48) hours prior to the time advertised for the opening of bids. If the information in the questionnaire proves satisfactory, the bidder's proposal will be received. All information contained in the answers to the questionnaire shall be kept confidential. The questionnaire will be returned to the bidder after it has served its purpose.

If upon review of the Questionnaire, or otherwise, the bidder appears not fully qualified or able to perform the intended work, the Adjutant General or his designated representative shall, after affording the bidder an opportunity to be heard and if still of the opinion that the bidder is not fully qualified to perform the work, refuse to receive or to consider any bid offered by the prospective bidder.

Failure to complete the prequalification questionnaire, (IF SENT TO YOU), will be sufficient cause for the Department to disqualify a prospective bidder.

INTERPRETATION OF QUANTITIES IN BID SCHEDULE - When quantities for individual items of work are listed in the bid form for which respective unit prices are asked, said quantities are to be considered as approximate and are to be used by the Department only for the purpose of comparing on a uniform basis bids offered for the work. The Department does not, expressly or by implication, agree that the actual

quantity of work will correspond therewith. The undersigned agrees that his is satisfied with and will at no time dispute said estimated quantities as a means of comparing the bids.

After determining the low bidder by comparison of bids submitted in accordance with the proposal form, the Adjutant General or his designated representative reserves the right to increase or decrease the scope of the improvement.

On unit price bids, payment will be made only for the actual number of units incorporated into the finished project at the unit price bid.

It is understood and agreed that the contractor will make no claim for anticipated profit or loss of profit due to the Department's right to eliminate entirely portions of the work or to increase or decrease any or all of the quantities shown in the proposal form and/or scope of work.

CONTENTS OF CONTRACT FORMS – The Statement of Work will provide the location, description, and the contract time of the work contemplated for which a lump sum bid price is asked or containing a schedule of items, together with estimated quantities of work to be performed and materials to be furnished, for which unit bid prices and/or lump sum bid prices are asked.

Proposal forms will include a listing of joint contractor and/or subcontractors asking the name of each person or firm to be engaged on the project as a joint contractor or subcontractor.

All papers bound with or attached to the offer form shall be considered a part thereof and shall not be detached or altered when the bid is submitted.

The plans, specifications and other documents designated in the bid document package, will also be considered a part thereof whether attached or not.

BIDDERS RESPONSIBILITY FOR EXAMINATION OF PLANS, SPECIFICATIONS, SITE OF WORK, ETC. - The bidder shall examine carefully the site work contemplated and the proposal, plans, specifications, supplemental specifications, special provisions and contract and bond forms therefore. The submission of a bid shall be considered as a warranty that the bidder has made such examination and is satisfied with the conditions to be encountered in performing the work and with the requirements of the plans, specifications, supplemental specifications, special provisions, contract and bond.

No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge of the requirements of the work to be accomplished or the conditions to be encountered in performing the project.

Where an investigation of subsurface conditions has been made by the Department in respect to foundation or other design, the bidders may inspect the records of the Department as to such investigation, including examination of samples, if any. It is understood, however, that any such information furnished is for the bidders' convenience only and no assurance is given that conditions found at the time of subsurface investigation, such as the presence or absence of water, will be conditions that prevail at the time of construction.

When the contract plan includes a log of test borings showing a record of the data obtained by the Department's investigation of subsurface conditions, said log represents only the opinion of the Department as to the character of material encountered by it in its test borings and there is no warranty, either expressed implied, that the conditions indicated are representative of those existing throughout the work or any part of it, or that unforeseen developments may not occur.

Information regarding the site of work given on the drawings or specifications has been obtained by the Department and is believed to be reasonably correct, however, it is the responsibility of the bidder to verify all such information. Any utilities that the Contractor encounters during the progress of the work, such as telephone ducts, electric ducts, water lines, sewer lines, electric lines and drainage pipes, whether shown or not on the contract plans, shall not be disturbed or damaged unless otherwise instructed in the plans and specifications.

In the event the utilities are damaged or disturbed by the Contractor, the Contractor shall be held liable for the damage or disturbed utilities which were:

- A. Shown on the plan.
- B. Located and exposed on the job as it progressed.
- C. Pointed out to the Contractor in the field.

The Contractor shall repair the damaged or disturbed utilities to the existing condition at no cost to the Department or the project. Any damage claims due to the disruption of service caused by the utilities being damaged shall be paid by the Contractor who shall save harmless the Department from all suits, actions, or claims of any character brought on account of such damages.

In the event utilities which were not shown on the plans and specifications are damaged or disturbed by the Contractor, the Contractor shall not be held liable but shall notify the Engineer. Upon instruction from the Engineer, the Contractor shall repair all damages which shall be considered to be additional work.

Utilities which must be relocated due to construction and not so indicated in the plans and specifications shall also be considered to be additional work. The Contractor shall not in any case, if he encounters underground utilities, proceed with any work until he has notified the Engineer.

No information derived from such inspection of records of subsurface investigations made by the Department or from the Engineer or from his authorized representative or from maps, plans, specifications or drawings will in any way relieve the Contractor from any risk or from properly fulfilling all the terms of the contract. The log tests borings if included in the plans are only for the convenience of the bidder and do not constitute a part of the contract. The Contractor is solely responsible for all assumptions, deductions, or conclusions he may make or derive from the subsurface records furnished.

ADDENDA AND INTERPRETATIONS - Discrepancies, omissions, or doubts as to the meaning of drawings and specifications should be communicated via email as directed in the Notice to Bidders and must be received by the Engineering Office, Department of Defense, no later than the date stated in the Notice to Bidders for submittal of questions. Any interpretation, if made, and any supplemental instructions will be in the form of written addenda. All addenda will be posted on the State Procurement Office website <http://spo.hawaii.gov> . Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

PREPARATION OF PROPOSAL - The bidder's proposal must be submitted on the proposal form furnished by the Department. The proposal must be prepared in full accordance with the instructions therein. The bidder must state, both in words and numerals, the lump sum price at which the work contemplated is proposed to be done. These prices must be written in ink or typed. Prices written in pencil are not acceptable. In case of a discrepancy between the prices written in words and those written in figures, the words shall govern over the figures. The bidder shall sign the proposal in the spaces provided with ink.

If the proposal is made by an individual, his name and post office address must be shown in the space provided. If made by a partnership, the name and post office address of each member of the partnership must be shown and the proposal signed by all partners or evidence in the form of a partnership agreement must be submitted showing the authority of the partner to enter, on behalf of said partnership, into contract with the State. If made by a corporation, the proposal must show the name, titles, and business address of the president, secretary and treasurer and also evidence in the form of a corporate resolution must be submitted showing the authority of the particular corporate representative to enter on behalf of said corporation into contract with the State. (See sample). If made by a joint venture the name and post office address of each member of the individual form, partnership or corporation comprising the joint venture must be shown with other pertinent information required of individuals, partnerships or corporations as the case may be. The proposal must be signed by all parties to the joint venture or evidence in the form of a Joint Venture Agreement must be submitted showing the authority of the Joint Venture's representative to enter on behalf of said Joint Venture into contract with the State.

Pursuant to the requirements of Section 103D-302, Hawaii Revised Statutes, each bidder shall include in his bid the name of each person or firm to be engaged by the bidder on the project as joint contractor or subcontractor indicating also the nature and scope of work to be performed by such joint contractor and/or subcontractor.

**BID SECURITY** - No proposal totaling \$25,000 or more will be considered unless accompanied by one of the following forms of bidder's security:

A. Surety bond underwritten by a company licensed to issue bonds in this State.

B. Legal Tender.

C. Certificate of Deposit; share certificate; or cashier's, treasurer's, tellers or official check drawn by, or certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

(1) These instruments may be utilized only to a maximum of \$100,000.

(2) If the required security amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be accepted.

**THE BID SECURITY SHALL BE AT LEAST FIVE (5) PERCENT OF THE BID AMOUNT.**

If the bidder is a corporation, evidence in the form of a corporate resolution, authorizing the corporate representative to execute the bond must be submitted with the proposal. If the bidder is a partnership, all partners must sign the bond or evidence in the form of a partnership agreement must be submitted showing the authority of the partner.

If the bidder is a joint venture, all parties to the joint venture must sign the bond or evidence in the form of a joint venture agreement must be submitted showing the authority of the bidder to sign the bond on behalf of the joint venture.

In the case where the award will be made on a group or item basis, the amount of proposal guaranty shall be based on the total bid for all groups or items submitted.

Bidders are cautioned that surety bid bonds which place a limit in value to the difference between the bid amount and the next acceptable bid, such value not to exceed the purported amount of the bond, are acceptable. Also, surety bid bonds which place a time limit on the right of the State to make claim other than allowed by statutes or these General Conditions are not acceptable. Bidders are hereby notified that a surety bid bond containing such limitation(s) is not acceptable and a bidder's bid accompanied by such surety bid bond will be automatically rejected.

DELIVERY OF PROPOSALS - The entire proposal shall be placed together with the bid security, in a sealed envelope so marked as to indicate the identity of the project, the project number, the date of bid opening and the name and address of the bidder and then delivered as indicated in the Notice to Bidders. Bids which do not comply with this requirement may not be considered. Proposals will be received up to the time fixed in the public notice for opening of bids and must by that time be in the hands of the officials indicated. The words 'SEALED BID' must be clearly written or typed on the face of the sealed envelope containing the proposal guaranty.

WITHDRAWAL OR REVISION OF PROPOSALS - Any bid may be withdrawn or revised at any time prior to, but not after, the time fixed in the public notice for the opening of bids, provided that a request in writing, executed by the bidder or his duly authorized representative, for the withdrawal or revision of such bid is filed with the Adjutant General before the time set for the opening of bids. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid. Whether or not bids are opened exactly at the time fixed in the public notice for opening bids, a bid will not be received after that time, nor may any bid be withdrawn after the time fixed in the public notice for the opening of bids.

PUBLIC OPENING OF PROPOSALS - Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

DISQUALIFICATION OF BIDDERS - Any one or more of the following cause will be considered as sufficient for the disqualification of a bidder and the rejection of his proposal or proposals:

- A. Non-compliance with "QUALIFICATION OF BIDDERS".
- B. Evidence of collusion among bidders.
- C. Lack of responsibility and cooperation as shown by past work.
- D. Being in arrears on existing contracts with the State of Hawaii or having defaulted on a previous contract.
- E. Lack of proper equipment and/or sufficient experience to perform the work contemplated as revealed by the Standard Questionnaire and Financial Statement for Bidders.
- F. No contractor's license or a contractor's license which does not cover type of work contemplated.
- G. More than one proposal for the same work from an individual, firm, partnership, corporation, or joint venture under the same or different name.

H. Delivery of bids after the deadline specified in the advertisement calling for bids.

I. Failure to pay, or satisfactorily settle, all bids overdue for labor and material on former contracts in force at the time of issuance of proposal forms.

CONSIDERATION OF PROPOSALS - After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared and the results of such comparison shall immediately be made public. In the comparison of bids, words written in the proposals will govern over figures and unit prices will govern over totals. Until the award of the contract, however, the right will be reserved to reject any and all proposals and to waive any defects or technicalities as may be deemed best for the interest of the State.

IRREGULAR PROPOSALS - Proposals will be considered irregular and may be rejected for the following reasons:

A. If the proposal is unsigned.

B. Bid security not in accordance with paragraph "BID SECURITY".

C. If proposal is on a form other than that furnished by the Department or if the form is altered or any part thereof detached.

D. If the proposal shows any non-compliance with applicable law, alteration of form, additions not called, conditional bids, incomplete bids, uninitiated erasures, other defects, or if the prices are obviously unbalanced, or if sufficient funds are not available to prosecute the work.

E. If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

This does not exclude a proposal limiting the maximum gross amount of awards acceptable to any one bidder at any one bid letting, provided that any selection of awards will be made by the Department.

F. When a proposal is signed by an officer or officers of a corporation and a currently certified corporate resolution authorizing such signer(s) to submit such proposal is not submitted with the proposal or when the proposal is signed by an agent other than the officer or officers of a corporation or a member of a partnership and a Power of Attorney is not submitted with the proposal.

G. Where there is an incomplete or ambiguous listing of joint contractors and/or subcontractors the proposal may be rejected. All work which is not listed as being performed by joint contractor and/or subcontractors must be performed by the bidder

with his own employees. Additions to the list of joint contractors or subcontractors will not be allowed. Whenever there is a doubt as to the completeness of the list, the bidder will be required to submit within five (5) working days, written confirmation that the work in question will be performed with his own force. Whenever there is more than one joint contractor and/or subcontractor listed for the same item of work, the bidder will be required to either confirm in writing within five (5) working days that all joint contractors or subcontractors listed will actually be engaged on the project or obtain within five (5) working days, written releases from those joint contractor and/or subcontractors who will not be engaged.

AWARD OF CONTRACT - The award of contract, if it be awarded, will be made within ninety (90) consecutive calendar days after the opening of the proposals to the lowest responsible and responsive bidder (including the alternate or alternates which may be selected by the Adjutant General in the case of alternate bids) whose proposal complies with all the requirements prescribed, but in no case will an award be made until all necessary investigations are made. The successful bidder will be notified, by letter mailed to the address shown on the proposal that his bid has been accepted and that he has been awarded the contract.

No contract will be awarded to any person or firm suspended under the provisions of Chapter 104 and Chapter 444, Hawaii Revised Statutes, as amended.

CANCELLATION OF AWARD - The Adjutant General or his designated representative reserves the right to cancel the award of any contract at any time before the execution of said contract by all parties without any liability to the awardee and to any other bidder.

RETURN OF BID SECURITY (excluding bid bonds) - All bid securities, except those of the four (4) lowest bidders, will be returned immediately following the opening and checking of the proposals. The retained bid securities of the remaining two (2) lowest bidders will be returned within five (5) working days following the execution of contract. The successful bidder's bid security may be returned after a satisfactory contract bond has been furnished and the contract has been executed.

RETURN OF BID BONDS – The bid bonds will be returned only after receipt of a written request from the contractor.

REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS - Performance and Payment Bonds shall be required for contracts exceeding \$50,000. At the time of the execution of the contract, the successful bidder shall file a good and sufficient performance and payment bonds on the form furnished by the Department or the contractors Surety, each in an amount equal to one hundred percent (100%) of the amount of the contract price unless otherwise stated in the solicitation of bids. Acceptable performance and payment bonds shall be limited to the following:

- A. Surety bond underwritten by a company licensed to issue bonds in this State; or



B. Legal Tender; or

C. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

(1) These instruments may be utilized only to a maximum of \$100,000.

(2) If the required security or bond amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be acceptable.

If the contractor fails to deliver the required performance and payment bonds, the contractor's award shall be canceled, its bid security enforced, and award of the contract shall be made to the next lowest bidders.

EXECUTION OF THE CONTRACT - The contract shall be signed by the successful bidder and returned, together with a satisfactory performance and payment bonds, within ten (10) consecutive calendar days, after the bidder has received his contract for execution or within such further time as the Adjutant General or his designated representative may allow. No proposal or contract shall be considered binding upon the State until the contract has been fully and properly executed by all parties thereto and the Adjutant General or his designated representative has endorsed therein his certificate, as required by Section 103D-309, Hawaii Revised Statutes, that there is an available unexpended appropriation or balance of an appropriation over and above all outstanding contracts sufficient to cover the State's amount required by such contract.

On any individual award totaling less than \$50,000, the State reserves the right to execute the contract by the issuance of a State Purchase Order. Acceptance shall result in a binding contract between the parties without further action by the State. Executing the contract by Purchase Order shall not be deemed a waiver of these specification requirements.

FAILURE TO EXECUTE THE CONTRACT - If the bidder to whom a contract is awarded shall fail or neglect to enter into the contract and to furnish satisfactory security within ten (10) consecutive calendar days after such award or within such further time as the Adjutant General or his designated representative may allow, the award shall be canceled and the bid security shall be declared forfeited. The bid security shall thereupon become a realization of the State, not as a penalty, but in liquidation of the damages sustained. The Adjutant General may thereupon award the contract to the next lowest responsible bidder or may call for new bids, whichever method he may deem is to the best interest of the State.

NOTICE TO PROCEED - After the contract is fully executed, the Contractor will be sent a formal "Notice to Proceed" advising the Contractor of the date on which he may proceed with the work. The Contractor shall be allowed ten (10) consecutive working days from said date to begin his work. In the event that the Contractor refuses or neglects to start the work, the Adjutant General or his designated representative may terminate the contract.

## **SPECIAL PROVISIONS FOR CONSTRUCTION CONTRACTS**

### **RESPONSIBILITY OF OFFERORS**

Offeror shall furnish proof of compliance in accordance with Act 190 Amendment to HRS 103D-310(c)

Required as a prerequisite to entering into a contract, the contractor shall register on the Hawaii Compliance Express web site for all tax clearances by going to <http://vendors.ehawaii.gov> and registering there.

A Certificate of Vendor Compliance generated from this website should be included with their bid proposal. A Compliant status is required prior to awarding the contract.

### **COMPREHENSIVE ANNUAL FINANCIAL REPORTING**

For any project that involves work on multiple structures, including non-building structures, whether it be new work or renovation work, or when the project involves both site improvements and a structure, the Contractor shall provide the following information to the Project Manager for fixed asset allocation purposes:

1. Within 30 calendar days of award as applicable to the project, the following shall be submitted:
  - a. The total cost of each individual structure.
  - b. The total cost of on-site improvement work; and
  - c. The total cost of off-site improvement work.
  
2. After all work, including all change order work has been completed, and prior to a request for final payment, the following shall be submitted:
  - a. The total cost of each individual structure including any related change order cost.
  - b. The total cost of on-site improvement work including any related change order cost; and
  - c. The total cost of off-site improvement work including any related change order cost.
  
3. The sum total cost of each category noted above shall total to the contract amount awarded, plus all change order work issued.
  - a. The cost of each individual structure includes the cost of the structure and any work within five (5) feet of the structure or building line which may include, but is not limited to its foundation, foundation earthwork, and utility improvements within and immediately below the building line.
  - b. The on-site improvement cost includes all site improvement work from

five (5) feet and beyond the building line and up to the project's property line, which may include but is not limited to clearing and grubbing, grading, drainage system, site utility, walkway, parking lot, and landscape improvements.

- c. The off-site improvement cost includes all off-site improvement work outside of the project's property line, which may include but is not limited to walkway, landscape, drainage, utility, and roadway improvements.

## **LIABILITY INSURANCE**

The Contractor shall not commence any work until it obtains, at its own expense, all required liability insurance. Such insurance must have the approval of the State as to limit form and amount and must be maintained with a company acceptable to the State. Such insurance must be maintained for the full period of the contract and shall provide protection from claims arising out of or resulting from the Contractor's operations under the Contract itself Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

The contractor shall take out and maintain during the life of this contract broad form public liability (Bodily Injury) and broad form property damage liability insurance in a combined single limit not less than \$1,000,000 and not less than \$2,000,000 in the aggregate to protect such contractor and all his subcontractors from claims for damages for personal injury, accidental death and property damage which may arise from operations under this contract, whether such operations be by himself or anyone directly or indirectly employed by either of them and to include automotive liability, workers compensation and employers liability.

The insurance described herein will be maintained by the Contractor for the full period of the Contract and in no event will be terminated or otherwise allowed to lapse prior to final acceptance of the work by the State.

A certificate of insurance acceptable to the State shall be filed with the State prior to commencement of the work. Such certificate shall contain a provision that coverage afforded under the policy will not be canceled or changed until at least thirty days written notice has been given to the State by registered mail at the address denominated for the State in the Contract for official communications to it should any policy be canceled before final acceptance by the State, and the Contractor fails to immediately procure replacement insurance as specified, the State reserves the right to procure such insurance and to deduct the cost thereof from any sum due the Contractor.

## **BID PREPARATION**

**Offer Form, Page Of-1.** Offeror is requested to submit its offer using Offeror's exact legal name as registered with the Department of Commerce and Consumer Affairs, if

applicable; and to indicate exact legal name in the appropriate space on Offer Form, page OF-1. Failure to do so may delay proper execution of the contract.

The authorized signature on the first page of the Offer Form shall be an original signature in ink. If unsigned or the affixed signature is a facsimile or a photocopy, the offer shall be automatically rejected unless accompanied by other material, containing an original signature, indicating the Offeror's intent to be bound.

**Hawaii Business.** A business entity referred to as a "Hawaii business", is registered and incorporated or organized under the laws of the State of Hawaii.

**Compliant non-Hawaii business.** A business entity referred to as a "compliant non-Hawaii business," is not incorporated or organized under the laws of the State of Hawaii but is registered to do business in the State.

**Tax Liability.** Work to be performed under this solicitation is a business activity taxable under Chapter 237, Hawaii Revised Statutes (HRS), and vendors are advised that they are liable for the Hawaii GET at the current rate.

**4.712% tax rate.** All businesses located on Oahu are required to pay the ½% County Surcharge tax on all Oahu transactions for which they pay the 4% GE tax. Neighbor island and out-of-state businesses that deliver goods or services to Oahu and have a 'physical presence' on Oahu, must pay the new ½% County Surcharge tax on their Oahu transactions.

**4% tax rate.** Neighbor island and out-of-state businesses that do not deliver any goods or services to Oahu are not subject to the new ½% County Surcharge tax.

If, however, an Offeror is a person exempt by the HRS from paying the GET and therefore not liable for the taxes on this solicitation, Offeror shall state its tax-exempt status and cite the HRS chapter or section allowing the exemption.

**Taxpayer Preference.** For evaluation purposes, pursuant to §103D-1008, HRS, the Bidder's tax-exempt price offer submitted in response to an IFB shall be increased by the applicable retail rate of general excise tax and the applicable use tax. Under no circumstance shall the dollar amount of the award include the aforementioned adjustment.

## **AWARD OF CONTRACT**

**Method of Award.** Award, if made, shall be to the responsive, responsible offeror submitting the lowest Lump Sum Bid unless otherwise noted in the bid documents.

**Responsibility of Lowest Responsive Bidder.** Reference Responsibility of Offerors in §3-122-112, HAR. If compliance documents have not been submitted to the State

Department of Defense prior to award, the lowest responsive offeror shall produce documents to the procurement officer to demonstrate compliance with this section.

**HRS Chapter 237 tax clearance requirement for award and final payment.**  
Instructions are as follows:

In accordance with Act 190 Amendment to HRS 103D-310(c)

Required as a prerequisite to entering into a contract, the contractor shall register on the Hawaii Compliance Express web site for all tax clearances by going to <http://vendors.ehawaii.gov> and registering there.

A Certificate of Vendor Compliance generated from this website should be included with their bid proposal. A Compliant status is required prior to awarding the contract.

A current Certificate of Vendor Compliance must accompany the invoice for final payment on the contract.

**HRS Chapters 383 (Unemployment Insurance), 386 (Workers' Compensation), 392 (Temporary Disability Insurance), and 393 (Prepaid Health Care) requirements for award.** Instructions are as follows:

Pursuant to §103D-310(c), HRS, The Certificate of Vendor Compliance must have a "Compliant" rating with the DLIR.

**Compliance with Section 103D-310(c)(1) and (2), HRS.**

Contractors are required to provide a state and federal tax clearance as a prerequisite to entering into a public contract of \$2,500 or more. To meet this requirement, all bidders shall submit valid tax clearances with their bid proposals when the bid is \$2,500 or more.

In accordance with Act 190 Amendment to HRS 103D-310(c), required as a prerequisite to entering into a contract, the contractor shall register on the Hawaii Compliance Express web site for all tax clearances by going to <http://vendors.ehawaii.gov> and registering there.

A Certificate of Vendor Compliance generated from this website shall be included with their bid proposal. A Compliant status is required prior to awarding the contract.

Failure to submit the required tax clearance will be sufficient grounds for the State to refuse to receive or consider the prospective bidder's proposal.

The Certificate of Vendor Compliance should be applied for as soon as possible. If a valid certificate is not submitted on a timely basis for award of a contract, an offer otherwise responsive and responsible may not receive the award.

**Final Payment Requirements.** A current Certificate of Vendor Compliance will be required for final payment.

## **SPECIAL PROVISIONS for Act 68, SLH 2010, CONSTRUCTION CONTRACTS**

### **DEFINITIONS FOR TERMS USED IN ACT 68, SLH 2010:**

- a. "Contract" means contracts for construction under 103D, HRS.
- b. "Contractor" has the same meaning as in section 103D-104, HRS, provided that "contractor" includes a Subcontractor where applicable.
- c. "Construction" has the same meaning as in section 103D-104, HRS.
- d. "Procurement Officer" has the same meaning as in section 103D-104, HRS.
- e. "Resident" means a person who is physically present in the State of Hawaii at the time the person claims to have established the person's domicile in the State of Hawaii and shows the person's intent is to make Hawaii the person's primary residence.
- f. "Shortage trade" means a construction trade in which there is a shortage of Hawaii residents qualified to work in the trade as determined by the Department of Labor and Industrial Relations.

### **EMPLOYMENT OF STATE RESIDENTS REQUIREMENTS – ACT 68, SLH 2010:**

- a. A Contractor awarded a contract shall ensure that Hawaii residents compose not less than eighty percent of the workforce employed to perform the contract work on the project. The eighty percent requirement shall be determined by dividing the total number of hours worked on the contract by Hawaii residents, by the total number of hours worked on the contract by all employees of the contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.
- b. Prior to starting any construction work, the Contractor shall submit the subcontract dollar amount for each of its Subcontractors.
- c. The requirements of this section shall apply to any subcontract of \$50,000 or more in connection with the Contractor, that is, such Subcontractors must also ensure that Hawaii residents compose not less than eighty percent of the Subcontractors workforce used to perform the subcontract.

- d. The Contractor and any Subcontractor whose subcontract is \$50,000 or more shall comply with the requirements of Act 68 for the entire duration of the contract.
1. Certification of Compliance for Employment of State Residents (attached) shall be made prior to submittal of the final invoice.
  2. The Certification of Compliance for Employment of State Residents shall be made under oath by an officer of the company by completing a Certification of Compliance for Employment of State Residents form and executing the Certificate before a licensed notary public.
  3. In addition to the certification as required above, the Contractor and Subcontractors shall maintain records such as certified payrolls for laborers and mechanics who performed work at the site and time sheets for all other employees who performed work on the project. These records shall include the names, addresses and number of hours worked on the project by all employees of the Contractor and Subcontractor who performed work on the project to validate compliance with Act 68. The Contractor and Subcontractors shall retain these records and provide access to the State for a minimum period of four (4) years after the final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four (4) year period, the Contractor and Subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four (4) year period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any Subcontractor.
- e. A Contractor who fails to comply with this section shall be subject to any of the following sanctions:
1. Temporary suspension of work on the project until the Contractor or its Subcontractor complies with Act 68.
  2. Withholding of payment on the contract until the Contractor or its Subcontractor complies with Act 68.
  3. Permanent termination of the Contractor or Subcontractor from any further work on the project.
  4. Recovery by the State, as applicable, of any moneys expended on the contract or subcontract as applicable; or
  5. Proceedings for debarment or suspension of the Contractor or Subcontractor under Hawaii Revised Statutes §103D-702.



**Conflict with Federal Law:**

This section shall not apply if the application of this section is in conflict with any federal law, or if the application of this section will disqualify the State from receiving Federal funds or aid.

**Davis-Bacon Act:**

Davis-Bacon Act prevailing wage rates apply to all State of Hawaii Construction contracts over \$2,000.00.

**CERTIFICATION OF COMPLIANCE  
FOR  
EMPLOYMENT OF STATE RESIDENTS  
HRS CHAPTER 103B, AS AMENDED BY ACT 192, SLH 2011**

Project Title: \_\_\_\_\_

Agency Project No: \_\_\_\_\_

Contract No.: \_\_\_\_\_

As required by Hawai'i Revised Statutes Chapter 103B, as amended by Act 192, Session Laws of Hawaii 2011-Employment of State Residents on Construction Procurement Contracts, I hereby certify under oath, that I am an officer of \_\_\_\_\_ and  
(Name of Contractor or Subcontractor Company)  
for the Project Contract indicated above, \_\_\_\_\_ was in  
(Name of Contractor or Subcontractor Company)  
compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawai'i residents, as calculated according to the formula in the solicitation, to perform this Contract.

I am an officer of the **Contractor** for this contract.

I am an officer of the **Subcontractor** for this contract.

***CORPORATE SEAL***

\_\_\_\_\_  
(Name of Company)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Print Title)

Subscribed and sworn to me before this  
\_\_\_\_\_ day of \_\_\_\_\_, 2011.

Doc. Date: \_\_\_\_\_ # of Pages \_\_\_\_\_ 1<sup>st</sup> Circuit

Notary Name: \_\_\_\_\_

Doc. Description: \_\_\_\_\_

\_\_\_\_\_  
Notary Public, 1<sup>st</sup> Circuit, State of Hawai'i  
My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Signature Date

NOTARY CERTIFICATION

SURETY BID BOND

Bond No.

KNOW TO ALL BY THESE PRESENTS:

That we, \_\_\_\_\_

[Full name or legal title of bidder]

as Offeror, hereinafter called Principal, and \_\_\_\_\_

[Bonding Company]

\_\_\_\_\_,  
as Surety, hereinafter called Surety, a corporation authorized to transact business as a Surety in the State of Hawaii,  
are held and firmly bound unto the State of Hawaii, Department of Defense, as Owner, hereinafter called owner, in  
the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_),

[Required amount of bid security]

lawful money of the United States of America, for the payment of which sum well and truly to be made, the said  
Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly  
and severally, firmly by these presents.

WHEREAS:

The Principal has submitted an offer for \_\_\_\_\_

[Project number and Title]

NOW, THEREFORE:

The condition of this obligation is such that if the Owner shall reject said offer, or in the alternate, accept  
the offer of the Principal and the Principal shall enter into a Contract with the Owner in accordance with the terms  
of such offer, and give such bond or bonds as may be specified in the solicitation or Contract Documents with good  
and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material  
furnished in the prosecution thereof as specified in the solicitation then this obligation shall be null and void,  
otherwise to remain in full force and effect.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Seal)

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
Signature

Title \_\_\_\_\_

(Seal)

\_\_\_\_\_  
Name of Surety

\_\_\_\_\_  
Signature

Title \_\_\_\_\_

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**SAMPLE FORMS**

Request for Substitution  
Name of Corporation  
Weekly Quality Control Report Form

## ARTICLE 1 - Definitions

Whenever the following terms or pronouns are used in these Bidding and Execution of Contract Requirements, and General Conditions, or in any contract documents or instruments where these Bidding and Execution of Contract Requirements, and General Conditions govern, the intent and meaning shall be interpreted as follows

- 1.1\_ ADDENDUM (plural - Addenda) A written or graphic document, including Drawings and Specifications, issued by the Engineer during the bidding period which modify or interpret the bidding documents, by additions, deletions, clarifications or corrections which shall be considered and made a part of the bid proposal and the contract when executed.
- 1.2\_ ADDITION (to the contract sum) Amount added to the contract Sum by Change Order.
- 1.3\_ ADMINISTRATIVE RULES - Hawaii Administrative Rules for Chapter 103-D of the Hawaii Revised Statutes.
- 1.4\_ ADMINISTRATOR - The Public Works Administrator, Department of Accounting and General Services
- 1.5\_ ADVERTISEMENT - A public announcement soliciting bids or offers.
- 1.6\_ AMENDMENT - A written document properly executed by the Contractor and DOD issued to amend the existing contract between the State and the Contractor.
- 1.7\_ BAD WEATHER DAY - When weather or other conditions prevent a minimum of four hours of work with the Contractor's normal work force on controlling items of work at the site.
- 1.8\_ BENEFICIAL OCCUPANCY - The point of project completion when the State can use the constructed facility in whole or in part for its intended purpose even though substantial completion may not be achieved.
- 1.9\_ BID See OFFER
- 1.10\_ BID SECURITY - The security furnished by the bidder from which the State may recover its damages in the event the bidder breaches its promise to enter into a contract with the State and fails to execute the required bonds covering the work contemplated, if its proposal is accepted.
- 1.11\_ BIDDER - See Offeror
- 1.12\_ BIDDING DOCUMENTS (or SOLICITATION DOCUMENTS) - The advertisement solicitation notice and instructions, Offer requirements, Offer forms, and the proposed contract documents including all addenda, and clarifications issued prior to receipt of the Offer.
- 1.13\_ BULLETIN - A written notice to the Contractor requesting a price and / or time proposal for contemplated changes preparatory to the issuance of a field order or change order.
- 1.14\_ BY OR TO THE ENGINEER - To avoid cumbersome and confusing repetition of expressions in these General Conditions, it is provided that whenever the following words or words of like import are used, they shall be understood as if they were followed by the words "by the Engineer" or "to the Engineer", unless the context clearly indicates another meaning: contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected or condemned.
- 1.15\_ CALENDAR DAY - Any day shown on the calendar beginning at midnight and ending at midnight the following day. If no designation of calendar or working day is made, "day" shall mean calendar day.
- 1.16\_ CHANGE ORDER - A written order signed by the Engineer that establishes the full payment and final settlement of all claims for direct, indirect and consequential costs, including costs of delays, and establishes any adjustments to contract time related to the work covered and affected by one or more field orders, or for change work done or agreed to be done without issuance of a separate field order. A change order signed by all the parties to the contract constitutes a supplemental agreement.
- 1.17\_ COMPLETION - See SUBSTANTIAL COMPLETION and FINAL COMPLETION.
- 1.18\_ COMPTROLLER - The Comptroller of the State of Hawaii, Department of Accounting and General Services.

- 1.19\_ CONSULTANT - A person, firm or corporation having a contract with the State to furnish services with respect to the project
- 1.20\_ CONTRACT - The written agreement between the Contractor and the State of Hawaii by its Adjutant General, by which the Contractor is bound to furnish all labor, equipment, and materials and to perform the specified work within the contract time stipulated, and by which the State of Hawaii is obligated to compensate the Contractor therefore at the prices set forth therein. The contract shall include the Contract Documents and also any and all amendments and change orders which are required to complete the construction in an acceptable manner.
- 1.21\_ CONTRACT COMPLETION DATE - The calendar day on which all work on the project, required by the contract, must be completed. See CONTRACT TIME and FINAL COMPLETION.
- 1.22\_ CONTRACT DOCUMENTS - The Contract, Addenda (which pertain to the Contract Documents, Contractor's Proposal (including Wage Schedule, List of Subcontractors and other documentation accompanying the Bid and any post bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, the Notice to Proceed, the Bonds, these GENERAL CONDITIONS, the SPECIAL CONDITIONS, the Specifications and the Drawings as the same are more specifically identified in the Contract together with all written Amendments, Change Orders, Field Orders, a written order for minor changes in the work and Engineer's written interpretations and clarifications issued on or after the effective date of the Contract.
- 1.23\_ CONTRACT PRICE - The amount designated on the face of the contract for the performance of work including allowances for extra if any.
- 1.24\_ CONTRACT TIME (or CONTRACT DURATION) - The number of calendar (or working) days provided for completion of the contract, inclusive of authorized time extensions. The number of days shall begin running on the effective date in the Notice to Proceed. If in lieu of providing a number of calendar (or working) days, the contract requires completion by a certain date, the work shall be completed by that date.
- 1.25\_ CONTRACTOR - Any individual, partnership, firm, corporation, joint venture, or other legal entity undertaking the execution of the work under the terms of the contract with the State of Hawaii, and acting directly or through its agents, or employees.
- 1.26\_ DEPARTMENT - The Department of Defense, State of Hawaii (abbreviated DOD).
- 1.27\_ DRAWINGS (or Plans) - The contract drawings in graphic or pictorial form, which show the design, location, character, dimensions and details of the Work to be done and which shall be a part of the Contract Documents.
- 1.28\_ ENGINEER - The Department of Defense Engineer, or the authorized person to act in the Engineer's behalf.
- 1.29\_ EQUAL OR APPROVED EQUAL - Whenever this term is used in the drawings or specifications, it shall be interpreted to mean a brand or article, prequalified in accordance with Section 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT, that may be used in place of the one specified.
- 1.30\_ FIELD ORDER - A written order issued by the Engineer or the Engineer's authorized representative to the Contractor requiring the contract work to be performed in accordance with a change or changes in the work. A field order may (1) establish a price adjustment and/or time adjustment in an amount the Engineer believes is reasonable for the change; or (2) may declare that the Engineer does not intend to adjust contract time or price for the work; or (3) may request the Contractor to submit a proposal for an adjustment to the contract time and/or price by a certain date.
- 1.31\_ FINAL COMPLETION - The date set by the Engineer that all work required by the contract and any amendments or changes thereto is in full compliance with the contract.
- 1.32\_ FORCE ACCOUNT - Term used when Work is ordered to be done without prior agreements as to lump sum or unit price cost thereof and is to be billed for at cost of labor, materials and equipment, insurances, taxes, etc., plus an agreed percentage for overhead and profit.
- 1.33\_ GUARANTEE - Legally enforceable assurance of the duration of satisfactory performance of quality of a product or Work
- 1.34\_ GOODS - Materials. §103D-104



- 1.35\_ HAZARDOUS MATERIALS - Any and all radioactive materials, asbestos, polychlorinated biphenyls, petroleum, crude oil, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, toxic substances or materials cited in Hazardous Material Laws. Abandoned motor vehicles or parts thereof are not hazardous material.
- 1.36\_ HOLIDAYS - The days of each year which are set apart and established as State holidays pursuant to Chapter 8, Hawaii Revised Statutes.
- 1.37\_ INSPECTOR - The person assigned by the Engineer to make detailed inspections of contract performance and materials supplied for the work.
- 1.38\_ LAWS - All Federal, State, City and County Laws, ordinances, rules and regulations, and standard specifications including any amendments thereto effective as of the date of the call for sealed bids.
- 1.39\_ PERFORMANCE LIQUIDATED DAMAGES - The amount prescribed in the General Conditions, Section 7.26 FAILURE TO COMPLETE THE WORK ON TIME to be paid to the State or to be deducted from any payments due or to become due the Contractor for each working day or calendar day (as applicable) delay in completing the whole or any specified portion of the work beyond the Contract Time.
- 1.40\_ LETTER OF AWARD - A written notice from the Engineer to the successful bidder(s) stating that its proposal has been accepted by the State.
- 1.41\_ MAJOR UNIT PRICE ITEM - A unit price item which, when extended on its estimated quantities in the proposal form, exceeds five percent (5%) of the total base bid proposal less any allowance and contingent items included in the proposal.
- 1.42\_ NON-CONFORMING WORK - Work that does not fulfill the requirements of the Contract Documents.
- 1.43\_ NOTICE TO CONTRACTORS - See Solicitation.
- 1.44\_ NOTICE TO PROCEED - A written notice from the Contracting Officer to the Contractor advising it of the date on which it is to begin the prosecution of the Work, which date shall also be the beginning of Contract Time.
- 1.45\_ POST CONTRACT DRAWINGS - Drawings issued after the award of the contract for the purpose of clarification and / or changes to the work indicated in the original drawings and which may be made a part of the contract.
- 1.46\_ PROJECT ACCEPTANCE DATE - The calendar day on which the Engineer accepts the project as sufficiently completed in compliance with the contract so that the State can occupy or utilize the Work for its intended use. See SUBSTANTIAL COMPLETION.
- 1.47\_ PROJECT CONTRACT LIMITS (or Contract Zone) - The portion of the site as delineated on the drawings which define the Contractor's primary area of operation for the prosecution of the work. It does not define the exact limits of all construction that may be required under the contract.
- 1.48\_ PROJECT GUARANTEE - A guarantee issued by the Contractor to the State. See GUARANTEE.
- 1.49\_ PROPOSAL (Bid) - See Offer (or Bid).
- 1.50\_ PROPOSAL FORM - See Offer Form (or Bid Form).
- 1.51\_ PUNCH LIST - A list compiled by the Engineer (or Contractor) stating work yet to be completed or corrected by the Contractor in order to substantially complete or finally complete the contract requirements.
- 1.52\_ QUESTIONNAIRE - The specified forms on which the bidder shall furnish required information as to its ability to perform and finance the work.
- 1.53\_ SHOP DRAWINGS - All drawings, diagrams illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- 1.54\_ SPECIAL CONDITIONS - Supplements or modifies the standard clauses of the GENERAL CONDITIONS setting forth conditions or requirements peculiar to the individual project under consideration, which are not thoroughly or satisfactorily covered, described or explained in these GENERAL CONDITIONS.
- 1.55\_ SPECIFICATIONS - That portion of the Contract Documents consisting of written descriptions for materials, equipment, construction systems, standards, workmanship, directions, provisions and requirements that

- pertain to the method and manner of performing the work and certain administrative requirements applicable thereto.
- 1.56\_ STATE - The State of Hawaii acting through its authorized representative.
- 1.57\_ SUBCONTRACT - Any written agreement between the Contractor and its subcontractors which contains the conditions under which the subcontractor is to perform a portion of the work for the Contractor.
- 1.58\_ SUBCONTRACTOR - An individual, partnership, firm, corporation, joint venture or other legal entity, as covered in Chapter 444, Hawaii Revised Statutes, which enters into an agreement with the Contractor to perform a portion of the work for the Contractor.
- 1.59\_ SUBSTANTIAL COMPLETION - The status of the project when the Contractor has completed all the work and 1) all utilities and services are connected and working, 2) all equipment is in acceptable working condition, 3) additional activity by the Contractor to correct punch list items as described herein will not prevent or disrupt use of the work or the facility in which the work is located, and 4) the building, structure, improvement or facility can be used for its intended purpose.
- 1.60\_ SUPERINTENDENT - The employee of the Contractor who is charged with the responsibility of all the Work.
- 1.61\_ SURETY - The qualified individual, firm or corporation other than the Contractor, which executes a bond with and for the Contractor to insure its acceptable performance of the contract.
- 1.62\_ UNUSUALLY SEVERE WEATHER - Uncommonly harsh weather including but not limited to hurricanes, tornados, tropical storms and tropical depressions, or as otherwise defined in the SPECIAL CONDITIONS.
- 1.63\_ WORK - The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient for the successful completion of the project and the execution of all the duties and obligations imposed by the contract.
- 1.64\_ WORKING DAY - A calendar day, exclusive of Saturdays, Sundays and State-recognized legal holidays for the month in question.

- 1.65\_ OFFER (or Bid) - The executed document submitted by an Offeror in response to a solicitation request, to perform the work required by the proposed contract documents, for the price quoted and within the time allotted.
- 1.66\_ OFFEROR (or BIDDER) - Any individual, partnership, firm, corporation, joint venture or other legal entity submitting directly or through a duly authorized representative or agent, an Offer for the work or construction contemplated.
- 1.67\_ OFFER FORM (or BID FORM) - The form prepared by the Department on which the Offeror submits the written offer or bid. By submitting an offer or bid, the Offeror adopt the language on the form as its own.
- 1.68\_ PROJECT START DATE - The date established in the Notice to Proceed when the Contractor shall begin prosecution of the work and the start of contract time.
- 1.69\_ SOLICITATION - An Invitation to Bid or Request for Proposals or any other document issued by the Department to solicit bids or offers to perform a contract. The solicitation may indicate the time and place to receive the bids or offers and the location, nature and character of the work, construction or materials to be provided.

## **ABBREVIATIONS**

HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
VECP	Value Engineering cost Proposal
DOTAX	State Department of Taxation
IRS	Internal Revenue Service

## **BIDDING AND EXECUTION OF CONTRACT REQUIREMENTS**

### **ARTICLE 2 - Proposal Requirements and Conditions**

- 2.1 QUALIFICATION OF BIDDERS**  
Prospective bidders must be capable of performing the

work for which bids are invited, and must be capable of entering into a public contract of \$25,000 or more.

#### 2.1.1 Notice of Intention to Bid

2.1.1.1 In accordance with Section 103D-310, Hawaii Revised Statutes, and Section 3-122-111, Hawaii Administrative Rules, a written notice of intention to bid need not be filed for construction of any public building or public work. A written notice of intention to bid need not be filed for mere furnishing and installing of furniture, equipment, appliances, material and any combination of these items when a Contractor's license is not required under Chapter 444 of the Hawaii Revised Statutes, as amended, and the rules and regulations of the Contractor's License Board.

2.1.1.2 If two (2) or more prospective bidders desire to bid jointly as a joint venture on a single project, they must file an affidavit of joint venture. Such affidavit of joint venture will be valid only for the specific project for which it is filed. No further license is required when all parties to the joint venture possess current and appropriate contractor's licenses. Joint ventures are required to be licensed in accordance with Chapter 444 of the Hawaii Revised Statutes, as amended, and the rules and regulations of the Contractor's License Board when any party to the joint venture agreement does not hold a current or appropriate contractor's license. The joint venture must register with the office of the Director of Commerce and Consumer Affairs in accordance with Chapter 425 of the Hawaii Revised Statutes, as amended.

2.1.1.3 No persons, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in any payment owed to the State of Hawaii or any of its political subdivisions or is in default of any obligation to the State of Hawaii or to all or to any of its political subdivisions, including default as a surety or failure to perform faithfully and diligently any previous contract with the Department.

2.1.1.4 The Engineer may, in accordance with Section 103D-310 Hawaii Revised Statutes, require the prospective Bidder to submit answers to questions contained in the STANDARD QUALIFICATION QUESTIONNAIRE FOR PROSPECTIVE BIDDERS ON PUBLIC WORKS CONTRACTS, on the form provided by the Department, properly executed and notarized, setting forth a complete statement of the experience of such prospective Bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment, at least two (2) working days prior to the time advertised for the opening of bids. If the information in the questionnaire proves satisfactory,

the Bidder's proposal will be received. All information contained in the answers to the questionnaire shall be kept confidential. The questionnaire will be returned to the Bidder after it has served its purpose.

2.1.1.5 If upon review of the Questionnaire, or otherwise, the Bidder appears not fully qualified or able to perform the intended work, the Engineer shall, after affording the Bidder an opportunity to be heard and if still of the opinion that the Bidder is not fully qualified to perform the work, refuse to receive or to consider any bid offered by the prospective Bidder.

2.1.1.6 Failure to complete and submit the prequalification questionnaire by the designated deadline will be sufficient cause for the Department to disqualify a prospective Bidder.

#### 2.1.2 Compliance Certificate § 103D -310(c) HRS

2.1.2.1 Contractors are required to provide proof of compliance in order to receive a contract of \$25,000 or more. To meet this requirement, Offerors may apply and register at the "Hawaii Compliance Express" website: <http://vendors.ehawaii.gov/hce/splash/welcome/html>

2.1.2.2 Tax clearances may be obtained by completing the Tax Clearance Application (Form A-6) and submitting it to the Hawaii State Department of Taxation (DOTAX) or the Internal Revenue Service (IRS). The application may be obtained from the DOTAX, or the IRS. The application may be mailed in or walked in to either the DOTAX or the IRS. Both tax agencies encourage the use of their mail-in process, which should be completed within twenty-one (21) calendar days. Tax clearance certificates will be issued to the applicant upon determination that the applicant has filed all tax returns due, and has paid all amounts owing on such returns, including penalty and interest.

2.1.2.3 Only original tax clearance certificates or certified copies will be accepted for this purpose. Failure to submit the required tax clearance certificates may be sufficient grounds for the Department to refuse to receive or consider the prospective bidder's proposal.

2.1.2.4 Tax clearance certificates are valid for six (6) months. The six-month period will begin with the later approval date stamped on the tax clearance. An original copy of a tax clearance that bears an original green certified copy stamp will be accepted by the Department for final payment. The period of validity is two months.

2.1.2.5 The tax clearances submitted with the bid proposals must be valid on the solicitation's first legal advertisement date or any date thereafter up to the bid opening date. Valid tax clearances submitted with the proposal will remain valid for the contract award and encumbrance.

2.1.2.6 Any person, firm or corporation that is not presently doing business in the State of Hawaii and submits a Notice of Intention to Bid must submit along with said Notice of Intention to Bid a certified letter stating that said person, firm or corporation is not doing business in the State of Hawaii and is not in default of any obligations due to the State or any of its political subdivisions.

2.1.2.7 If a business cannot obtain a tax clearance certificate because of tax delinquencies, it may submit a "special letter" from DOTAX and/or the IRS. The "special letter" may only be obtained if (1) the business has an existing installment agreement with the tax agency, or (2) the delinquency is the subject of an administrative or judicial appeal. The bidder is cautioned that the "special letter" from the IRS must be certified by DOTAX. All conditions applied to tax clearance certificates for this purpose are applicable to these "special letters". Instructions to obtain the "special letter" are available from each respective tax agency.

2.1.2.8 Various combinations of tax clearance certificates and "special letters" are acceptable for this purpose as follows: Tax clearance certificate signed by both tax agencies;

- (a) Individual tax clearance certificates from each tax agency, respectively;
- (b) Tax clearance certificate from one tax agency and a "special letter" from the other tax agency;
- (c) "Special letters" from both tax agencies.

2.1.3 Wrongful Refusal to Accept a Bid - In the event the Engineer, for any reason, wrongfully refuses to accept what would otherwise be a responsive and responsible lowest bid, the exclusive remedy for such lowest bidder shall be the recovery of the reasonable actual costs of preparing the bid. No other bidder shall have any claim for damages. Refer to 2.13 PROTEST.

## **2.2 INTERPRETATION OF QUANTITIES IN BID SCHEDULE**

2.2.1 When quantities for individual items of work are listed in the proposal form for which respective unit prices are asked, said quantities are estimated or approximate and are to be used by the Department only for the purpose of comparing on a uniform basis bids offered for the work. The Department does not, expressly or by implication, agree that the actual quantity of work will correspond therewith.

2.2.2 After determining the low bidder by comparison of bids submitted in accordance with the proposal form and Section 3.1 CONSIDERATION OF PROPOSALS; CANCELLATION in these specifications, the quantities of unit price items of work may increase or decrease.

2.2.3 On unit price bids, payment will be made only for the actual number of units incorporated into the finished project at the unit price bid, subject to Section 4.7 VARIATIONS IN ESTIMATED QUANTITIES.

## **2.3 CONTENTS OF PROPOSAL FORMS**

2.3.1 Prospective bidders will be furnished with proposal forms giving the location, description, and the contract time of the work contemplated for which a lump sum bid price is asked or containing a schedule of items, together with estimated quantities of work to be performed and materials to be furnished, for which unit bid prices and/or lump sum bid prices are asked.

2.3.2 All papers bound with or attached to the proposal form shall be considered a part thereof and shall not be detached or altered when the proposal is submitted.

2.3.3 The drawings, specifications and other documents designated in the proposal form, will also be considered a part thereof whether attached or not.

2.3.4 By submitting a bid on the proposal form, a bidder accepts the language therein as its own.

## **2.4 THE SITE AND PROPOSED CONTRACT DOCUMENTS**

2.4.1 The Bidder shall examine carefully the Project Site contemplated and the proposal, drawings, specifications, supplemental specifications, SPECIAL CONDITIONS, and any documents or items referenced therein and contract and bond forms therefore. The submission of a bid shall be considered as a warranty that the Bidder has made such examination and is informed of the conditions to be encountered in performing the Work and of the requirements of the drawings, specifications, supplemental specifications, SPECIAL CONDITIONS and any documents and items referenced therein, and contract and bonds.

## **2.5 ADDENDA AND BID CLARIFICATIONS**

2.5.1 The terms and requirements of the bid documents (i.e. drawings, specifications and other bid and contract documents) cannot be changed prior to the bid opening except by a duly issued addenda or bid clarification.

2.5.2 The Department may alter, increase or decrease the scope of the work or the contract time, provisions and

conditions by issuing a written addendum which sets forth such alterations, increase or decrease.

2.5.3 Bid Discrepancy - If a bidder discovers what it considers to be a discrepancy, ambiguity, omission or doubt as to the meaning of drawings, specifications and any other bid or contract documents, the bidder shall request in writing no later than 14 days before the bids are opened.

2.5.4 Addenda to the bid documents will be provided to all prospective bidders at the respective offices furnished for such purposes. Each addendum shall be an addition to the Contract Documents.

2.5.5 Upon providing an addenda, all bidders shall be deemed to be on notice of the information therein whether or not the addendum or bid clarification is actually received. All addenda and bid clarifications so issued shall become part of the Contract Documents.

2.5.6 No claim for additional compensation and/or time for performance will be allowed if the Contractor discovered, or in the exercise of reasonable care, should have discovered a discrepancy, ambiguity, omission or doubt for which an interpretation was not requested.

## **2.6 SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING**

2.6.1 Brand names of materials or equipment are specified or shown on the drawings to indicate a quality, style, appearance or performance and not to limit competition. The Bidder shall base its bid on one of the specified brand names unless alternate brands are qualified as equal or better in an addendum. Qualifications of such proposed alternate brands shall be submitted in writing and addressed to the Engineer. The face of the envelope containing the request must be clearly marked "SUBSTITUTION REQUEST". The request may be hand carried to the Department of Defense, State of Hawaii, 3949 Diamond Head Road, Honolulu, HI 96816-4495, or mailed. In either case, the written request must be received no later than the time and date specified in the NOTICE TO BIDDERS. The written request will be time stamped by the Department. For the purpose of this section, the time designated by the time stamping device in the Engineering Office shall be official. If the written request is hand carried, the bearer is responsible to ensure that the request is time stamped by the Engineering Office.

2.6.2 Submit three (3) sets of the written request, technical brochures, and a statement of variances. Refer to the Appendix for the Sample "Request for Substitution."

2.6.3 Statement of Variances - The statement of variances must list all features of the proposed

substitution which differ from the drawings, specifications and / or product(s) specified and must further certify that the substitution has no other variant features. The brochure and information submitted shall be clearly marked showing make, model, size, options, etc., and must include sufficient evidence to evaluate each feature listed as a variance. A request will be denied if submitted without sufficient evidence. If after installing the substituted product, an unlisted variance is discovered, Contractor shall immediately replace the product with a specified product all at no cost to the State

2.6.4 Substitution Denial - Any substitution request not complying with the above requirements will be denied. Substitution requests sent to other agencies and received by the Engineering Office after the deadline above will be denied.

2.6.5 An addendum shall be issued to inform all prospective bidders of any accepted substitution in accordance with Section 2.5 ADDENDA AND BID CLARIFICATIONS.

2.6.6 For substitutions of materials and equipment after issuance of the Letter of Award, refer to Section 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT AFTER BID OPENING.

## **2.7 PREPARATION OF PROPOSAL**

2.7.1 The Bidder's proposal must be submitted on the proposal form furnished by the Department. The proposal must be prepared in full accordance with the instructions thereon. The Bidder must state, both in words and numerals, the lump sum price or total sum bid at which the work contemplated is proposed to be done. These prices must be written in ink or typed. In case of a discrepancy between the prices written in words and those written in figures, the words shall govern over the figures. The Bidder shall sign the proposal in the spaces provided with ink. By submitting a bid, the Bidder adopts the language of the proposal as its own.

2.7.2 If the proposal is made by an individual, the person's name and post office address must be shown in the space provided. If made by a partnership the name and post office address of each member of the partnership must be shown and the proposal signed by all partners or evidence in the form of a partnership agreement must be submitted showing the authority of the partner to enter, on behalf of said partnership, into contract with the State. If made by a corporation the proposal must show the name, titles, and business address of the president, secretary and treasurer and also evidence in the form of a corporate resolution must be submitted showing the authority of the particular corporate representative to enter on behalf of said corporation into contract with the State. If made by a joint venture the name and post office address of each member of the individual firm, partnership or corporation

comprising the joint-venture must be shown with other pertinent information required of individuals, partnerships or corporations as the case may be. The proposal must be signed by all parties to the joint-venture or evidence in the form of a Joint-Venture Agreement must be submitted showing the authority of the joint-venture's representative to enter on behalf of said joint-venture into contract with the State.

2.7.3 Pursuant to the requirements of Section 103D-302, HRS, each Bidder shall include in its bid the name of each person or firm to be engaged by the Bidder on the project as joint contractor or subcontractor indicating also the nature and scope of work to be performed by such joint contractor and/or subcontractor and their respective contractor's license number. If the Bidder fails to list a joint contractor or subcontractor, the State may accept the bid if it is in the State's best interest and the value of the work to be performed by the joint contractor or subcontractor is equal to or less than one percent of the total bid amount. The Bidder shall be solely responsible for verifying that their joint contractor or subcontractor has the proper license at the time of the submitted bid.

## **2.8 BID SECURITY §3-122-223(d) HAR**

2.8.1 Subject to the exceptions in Section 3-122-223(d) HAR, all lump sum bids of \$25,000 and higher, or lump sum base bids including alternates of \$25,000 and higher, that are not accompanied by bid security are non-responsive. Bid security shall be one of the following: §3-122-222(a) HAR

2.8.1.1 Surety bid bond underwritten by a company licensed to issue bonds in this State which shall be substantially in the form of the Surety Bid Bond form in the Appendix; or

2.8.1.2 Legal Tender; or

2.8.1.3 Certificate of Deposit; Credit Union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

- (a) These instruments may be utilized only to a maximum of \$100,000.
- (b) If the required security or bond amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be accepted.
- (c) **CAUTION** - Bidders are cautioned that certificates of deposit or share certificates with an early withdrawal penalty must have a face value

sufficient to cover the maximum penalty amount in addition to the proposal guaranty requirement. If the certificate is made out to two names, the certificate must be assigned unconditionally to the Department of Defense.

2.8.2 Unless otherwise stated, the bid security shall be in an amount equal to at least five percent (5%) of the lump sum bid or lump sum base bid including alternates or in an amount required by the terms of the federal funding, where applicable.

2.8.3 If the Bidder is a corporation, evidence in the form of a corporate resolution, authorizing the corporate representative to execute the bond must be submitted with the proposal. (See sample in Appendix.) If the Bidder is a partnership, all partners must sign the bond or evidence in the form of a partnership agreement must be submitted showing the authority of the partner.

2.8.4 If the Bidder is a joint -venture, all parties to the joint venture must sign the bond; provided, that one party to the joint-venture may sign on behalf of the joint-venture if evidence in the form of a joint-venture agreement or power of attorney, is submitted showing the authority of the signatory to sign the bond on behalf of the joint-venture.

2.8.5 In the case where the award will be made on a group or item basis, the amount of bid security shall be based on the total bid for all groups or items submitted.

2.8.6 Bidders are cautioned that surety bid bonds which place a limit in value to the difference between the bid amount and the next acceptable bid, such value not to exceed the purported amount of the bond, are not acceptable. Also, surety bid bonds which place a time limit on the right of the State to make claim other than allowed by statutes or these GENERAL CONDITIONS are not acceptable. Bidders are hereby notified that a surety bid bond containing such limitation(s) is not acceptable and a bid accompanied by such surety bid bond will be automatically rejected.

**2.9 DELIVERY OF PROPOSALS** - The entire proposal shall be placed together with the bid security, in a sealed envelope so marked as to indicate the identity of the project, the project number, the date of bid opening and the name and address of the bidder and then delivered as indicated in the Notice to Contractors. Bids which do not comply with this requirement may not be considered. Proposals will be received up to the time fixed in the public notice for opening of bids and must be in the hands of the official by the time indicated. The words "SEALED BID" must be clearly written or typed on the face of the sealed envelope containing the proposal and bid security.

**2.10 WITHDRAWAL OR REVISION OF PROPOSAL** - may be modified prior to the deadline to submit the offers by any of the following documents.

2.10.1 Withdrawal of Proposals:

2.10.1.1 A signed, written notice received in the office designated in the solicitation; or

2.10.1.2 A written notice faxed to the office designated in the solicitation; or

2.10.1.3 A telegraphic message received by telephone by the office designated in the solicitation from the receiving telegraph company office, provided the telegraph company confirms the telephone message by sending a written copy of the telegram showing that the message was received at such office prior to the time and date set for the opening.

2.10.2 Modification of Proposals:

2.10.2.1 A written notice received in the office designated in the solicitation, stating that a modification to the offer is submitted; and

2.10.2.2 The actual modification sealed securely in a separate envelope or container, accompanying the written notice.

**2.11 PUBLIC OPENING OF PROPOSALS** - Proposals will be opened and read publicly at the time and place indicated in the Notice to Contractors. Bidders, their authorized agents and other interested parties are invited to be present.

**2.12 DISQUALIFICATION OF BIDDERS** - Any one or more of the following causes will be considered as sufficient for the disqualification of a Bidder and the rejection of its proposal or proposals:

2.12.1 Non-compliance with Section 2.1  
QUALIFICATION OF BIDDERS.

2.12.2 Evidence of collusion among bidders.

2.12.3 Lack of responsibility and cooperation as shown by past work such as failing to complete all of the requirements to close the project within a reasonable time or engaging in a pattern of unreasonable or frivolous claims for extra compensation.

2.12.4 Being in arrears on existing contracts with the State of Hawaii, or having defaulted on a previous contract with the State of Hawaii.

2.12.5 Lack of proper equipment and/or sufficient experience to perform the work contemplated, as revealed

by the Standard Questionnaire and Financial Statement for Bidders.

2.12.6 No contractor's license or a contractor's license which does not cover type of work contemplated.

2.12.7 More than one proposal for the same work from an individual, firm, partnership, corporation or joint venture under the same or different name.

2.12.8 Delivery of bids after the deadline specified in the advertisement calling for bids.

2.12.9 Failure to pay, or satisfactorily settle, all bills overdue for labor and materials of former contracts in force at the time of issuance of proposal forms.

2.12.10 Debarment or suspension pursuant to the provisions of Chapters 103D, 104 and 444, Hawaii Revised Statutes, as amended.

**2.13 PROTEST**

2.13.1 Protests shall be adjudicated in accordance with §103D-701, HRS and as amended.

2.13.2 No Protest based upon the contents of the solicitation shall be considered unless it is submitted in writing to the Engineer, prior to the date set for the receipt of proposals.

2.13.3 A protest of an award or proposed award pursuant to §103D-302 or §103D-303, HRS, shall be submitted in writing to the Engineer within five (5) working days after the posting of the award of the Contract.

2.13.4 In addition to any other relief, when a protest is sustained and the protestor should have been awarded the contract under the solicitation but is not, then the protestor shall be entitled to the actual costs reasonably incurred in connection with the solicitation, including bid or proposal preparation costs but not attorney's fees.

### **ARTICLE 3 - Award and Execution of Contract**

**3.1 CONSIDERATION OF PROPOSALS; CANCELLATION** - After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared and the results of such comparison shall be made public. In the event of a tie bid, the low bidder shall be determined by lot. In the comparison of bids, words written in the proposals will govern over figures and unit prices will govern over totals. Until the award of the contract, the Department may cancel the solicitation, reject any and all proposals in whole or part and may waive any defects or technicalities whenever such action is deemed to be in the best interest of the State.

**3.2 IRREGULAR PROPOSALS** - Proposals will be considered irregular and may be rejected for the following reasons:

3.2.1 If the proposal is unsigned.

3.2.2 If bid security is not in accordance with Section 2.8 BID SECURITY.

3.2.3 If proposal is on a form other than that furnished by the Department; or if the form is altered or any part thereof detached.

3.2.4 If the proposal shows any non-compliance with applicable law, alteration of form, additions not called, conditional bids, incomplete bids, non initialed erasures, other defects, or if the prices are obviously unbalanced.

3.2.5 If the Bidder adds any provisions reserving the right to accept or reject an award.

3.2.6 If the Bidder adds any provisions reserving the right to enter into a contract pursuant to an award.

3.2.7 When a proposal is signed by an officer or officers of a corporation and a currently certified corporate resolution authorizing such signer(s) to submit such proposal is not submitted with the proposal or when the proposal is signed by an agent other than the officer or officers of a corporation or a member of a partnership and a power of attorney is not submitted with the proposal.

3.2.8 Where there is an incomplete or ambiguous listing of joint contractors and/or subcontractors the proposal may be rejected. All work which is not listed as being performed by joint contractors and/or subcontractors must be performed by the bidder with its own employees. Additions to the list of joint contractors or subcontractors will not be allowed. Whenever there is a doubt as to the completeness of the list, the Bidder will be required to submit within five (5) working days, a written confirmation that the work in question will be performed with its own work force. Whenever there is more than one joint contractor and/or subcontractor listed for the same item of work, the Bidder will be required to either confirm in writing within five (5) working days that all joint contractors or subcontractors listed will actually be engaged on the project or obtain within five (5) working days written releases from those joint contractors and/or subcontractors who will not be engaged.

3.2.9 If in the opinion of the Engineer, the Bidder and its listed subcontractors do not have the contractor's licenses or combination of contractor's licenses necessary to complete all of the work.

**3.3 CORRECTION OF BIDS AND WITHDRAWAL OF BIDS §3-122-31 HAR**

3.3.1 Corrections to bids after bid openings but prior to award may be made under the following conditions:

3.3.1.1 If the mistake is attributable to an arithmetical error, the Engineer shall so correct the mistake. In case of error in extension of bid price, the unit price shall govern.

3.3.1.2 If the mistake is a minor informality which shall not affect price, quantity, quality, delivery, or contractual conditions, the Bidder shall request correction by submitting proof of evidentiary value which demonstrates that a mistake was made. The Engineer shall prepare a written approval or denial in response to this request. Examples of such mistakes include:

- (a) Typographical errors;
- (b) Transposition errors;
- (c) Failure of a Bidder to sign the bid, but only if the unsigned bid is accompanied by other material indicating the Bidder's intent to be bound.

3.3.1.3 For reasons not allowable under paragraphs 3.3.1.1 and 3.3.1.2 when the Engineer determines that the correction or waiver of an obvious mistake is in the best interest of the Department or is warranted for the fair treatment of other bidders.

3.3.2 Withdrawal of bids after bid opening but prior to award may be made when the bid contains a mistake attributable to an obvious error which affects price, quantity, quality, delivery, or contractual conditions, and the bidder requests withdrawal by submitting proof of evidentiary value which demonstrates that a mistake was made. The Contracting Officer shall prepare a written approval or denial in response to this request.

3.3.3 Correction or withdrawal of bids after award is not permissible except in response to a written withdrawal or correction request by the Contractor, and the Engineer makes a written determination that the Department's procurement practices and policies would not be materially affected by such correction or withdrawal.

**3.4 AWARD OF CONTRACT**

3.4.1 The award of contract, if it be awarded, will be made within ninety (90) consecutive calendar days after the opening of the proposals to the lowest responsible and responsive Bidder (including the alternate or alternates which may be selected by the Engineer in the case of alternate bids) whose proposal complies with all the requirements prescribed, but in no case will an award be made until all necessary investigations are made. The successful Bidder will be notified, by letter mailed to the address shown on the proposal, that its bid has been accepted and that it has been awarded the contract.



3.4.2 If the contract is not awarded within the ninety (90) days noted in paragraph 3.4.1 above, the Department may request the successful Bidder to extend the time for the acceptance of its bid. The Bidder may reject such a request without penalty; and in such case, the Department may at its sole discretion make a similar offer to the next lowest responsive and responsible bidder and so on until a bid is duly accepted or until the Department elects to stop making such requests.

3.4.3 No contract will be awarded to any person or firm suspended or debarred under the provisions of Chapters 103D, 104 and Chapter 444, Hawaii Revised Statutes as amended.

3.4.4 The contract will be drawn on the forms furnished by the Comptroller. The contract will not be binding upon the Department until all required signatures have been affixed thereto and written certification that funds are available for the work has been made.

**3.5 CANCELLATION OF AWARD** - The Department reserves the right to cancel the award of any contract at any time before the execution of said contract by all parties. The exclusive remedy to the awardee for such cancellation shall be payment of the reasonable bid preparation costs and the reimbursement of any direct expenses incurred as directed in the Notice of Award. Such cancellation will not incur any liability by the Department to any other Bidder.

**3.6 RETURN OF BID SECURITY** - All bid securities, except those of the four (4) lowest Bidders, will be returned following the opening and checking of the proposals. The retained bid securities of the four lowest Bidders will be returned within five (5) working days following the complete execution of the contract.

**3.7 REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS**

3.7.1 Performance and Payment Bonds shall be required for contracts \$25,000 and higher. At the time of the execution of the contract, the successful Bidder shall file good and sufficient performance and payment bonds on the form furnished by the Department (see Appendix), each in an amount equal to one hundred percent (100%) of the amount of the contract price unless otherwise stated in the solicitation of bids. Acceptable performance and payment bonds shall be limited to the following:

3.7.1.2 Surety bonds underwritten by a company licensed to issue bonds in this State; or

3.7.1.3 A certificate of deposit; credit union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings

institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

(a) These instruments may be utilized only a maximum of \$100,000.

(b) If the required security or bond amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be acceptable.

3.7.2 If the Contractor fails to deliver the required performance and payment bonds, the contractor's award shall be canceled, the Department shall have the remedies provided under Section 3.9 FAILURE TO EXECUTE THE CONTRACT and award of the contract shall be made to the next lowest responsible and responsive bidder.

**3.8 CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS**

Contractors are hereby notified of the applicability of Section 11-205.5, HRS, which states that campaign contributions are prohibited from specified State or County government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body.

**3.9 EXECUTION OF THE CONTRACT**

3.9.1 Upon acceptance of the successful bidder's offer by the Contracting Officer, the Contractor shall provide satisfactory performance and payments bonds within ten (10) calendar days after the award of the contract or within such further time as granted by the Contracting Officer. No proposal or contract shall be considered binding upon the State until the contract has been fully and properly executed by all parties thereto and the Comptroller has endorsed thereon its certificate, as required by Section 103D-309, HRS, that there is an available unexpended appropriation or balance of an appropriation over and above all outstanding contracts sufficient to cover the State's amount required by such contract.

3.9.2 On any individual award totaling less than \$25,000, the State reserves the right to execute the contract by the issuance of a State Purchase Order. Issuance of a State Purchase Order shall result in a binding contract between the parties without further action by the State. The issuance of a Purchase Order shall not be deemed a waiver of these General Conditions and Contract Document requirements.

**3.10 FAILURE TO EXECUTE THE CONTRACT**

3.10.1 Before the Award - If a low Bidder without legal justification withdraws its bid after the opening of bids but before the award of the contract, the State shall be entitled to retain as liquidated damages the amount established as bid security, and may take all appropriate actions to recover the performance liquidated damages sum from the property or third-party obligations deposited as bid security.

3.10.2 After the Award - If the Bidder to whom a contract is awarded shall fail or neglect to furnish security within ten (10) calendar days after such award or within such further time as the Contracting Officer may allow, the State shall be entitled to recover from such Bidder its actual damages, including but not limited to the difference between the bid and the next lowest responsive bid, as well as personnel and administrative costs, consulting and legal fees and other expenses incurred in arranging a contract with the next low responsive bidder or calling for new bids. The State may apply all or part of the amount of the bid security to reduce its damages. If upon determination by the State of the amount of its damages the bid security exceeds that amount, it shall release or return the excess to the person who provided same.

3.10.3 Engineer's Options - Upon a withdrawal of the lowest responsive bid, or upon a refusal or failure of the lowest Bidder to execute the contract, the Engineer may thereupon award the contract to the next lowest responsible and responsive Bidder or may call for new bids, whichever method the Engineer may deem to be in the best interests of the State.

### **3.11 NOTICE TO PROCEED**

3.11.1 After the contract is fully executed and signed by the Department of Defense, the Contractor will be sent a formal Notice to Proceed letter advising the Contractor of the date on which it may proceed with the work. The Contractor shall be allowed ten (10) consecutive working days from said date to begin its work. In the event that the Contractor refuses or neglects to start the work, the Engineer may terminate the contract in accordance with Section 7.27 TERMINATION OF CONTRACT FOR CAUSE.

3.11.2 The Contractor may commence its operations strictly at its own risk prior to receipt of the formal notice to proceed, provided it makes a written request and has received approval from the Engineer in writing. All work performed shall be conducted in accordance with Section 7.1 PROSECUTION OF THE WORK.

3.11.3 In certain cases, the State, with agreement of the Contractor, may issue a Notice to Proceed before full execution of the contract by the Engineer and it may further issue a Notice to Proceed concurrently with the Notice of Award.

3.11.4 In the event the Notice to Proceed is not issued within one hundred and eighty (180) days after the date of the award of contract the Contractor may submit a claim for increased labor and material costs (but not overhead costs) which are directly attributable to the delay beyond the first 180 days. Such claims shall be accompanied with the necessary documentation to justify the claim. No payment will be made for escalation costs that are not fully justified.

## **GENERAL CONDITIONS ARTICLE 4 - Scope of Work**

**4.1 INTENT OF CONTRACT, DUTY OF CONTRACTOR** - The intent of the Contract is to provide for the construction, complete in every detail, of the Work described at the accepted bid price and within the time established by the contract. The Contractor has the duty to furnish all labor, materials, equipment, tools, transportation, incidentals and supplies and to determine the means, methods and schedules required to complete the work in accordance with the drawings, specifications and terms of the contract.

**4.2 CHANGES** - The Engineer may at any time, during the progress of the work, by written order, and without notice to the sureties, make changes in the work as may be found to be necessary or desirable. Such changes shall not invalidate the Contract nor release the Surety, and the Contractor will perform the work as changed, as though it had been a part of the original Contract.

4.2.1 Minor Changes - Minor changes in the work may be directed by the Engineer with no change in contract price or time of performance. Minor changes are consistent with the intent of the Contract Documents and do not substantially alter the type of work to be performed or involve any adjustment to the contract sum or extension of the contract time.

### **4.2.2 Oral Orders**

4.2.2.1 Any oral order, direction, instruction, interpretation or determination from the Engineer or any other person which in the opinion of the Contractor causes any change, shall be considered as a change only if the Contractor gives the Engineer written notice of its intent to treat such oral order, direction, instruction, interpretation or determination as a change directive. Such written notice must be delivered to the Engineer before the Contractor acts in conformity with the oral order, direction, instruction, interpretation or determination, but not more than five (5) days after delivery of the oral order to the Contractor. The written notice shall state the date, circumstances, whether a time extension will be requested, and source of the order that the Contractor regards as a change. Such written notice may not be waived and shall be a condition precedent to

the filing of any claim by the Contractor. Unless the Contractor acts in accordance with this procedure, any such oral order shall not be treated as a change for which the Contractor may make a claim for an increase in the contract time or contract price related to such work.

4.2.2.2 No more than five (5) days after receipt of the written notice from the Contractor, a Field Order shall be issued for the subject work if the State agrees that it constitutes a change. If no Field Order is issued in the time established, it shall be deemed a rejection of Contractor's claim for a change. If the Contractor objects to the failure to issue a Field Order, it shall file a written protest with the Engineer within thirty (30) days after delivery to the Engineer of the Contractor's written notice of its intention to treat the oral order as a change. In all cases, the Contractor shall proceed with the work. The protest shall be determined as provided in Section 7.25 DISPUTES AND CLAIMS.

4.2.3 Field Orders – Upon receipt of a Field Order, the Contractor shall proceed with the changes as ordered. If the Contractor does not agree with any of the terms or conditions or in the adjustment or non-adjustment to the contract time and / or contract price, Contractor shall file a notice of intent to claim within thirty (30) calendar days after receipt of the written Field Order that was not agreed upon by both parties. Failure to file such protest within the time specified shall constitute agreement on the part of the Contractor with the terms, conditions, amounts and adjustment or non-adjustment to contract price and / or contract time set forth in the Field Order. The requirement for timely written notice shall be a condition precedent to the assertion of a claim.

#### 4.2.4 Change Orders

4.2.4.1 The Department will issue sequentially numbered Change Orders at times it deems appropriate during the contract period. A Change Order may contain the adjustment in contract price and / or time for a number of Field Orders. The Change Order will be issued in the format attached (refer to the Appendix). No payment for any change will be made until the change order is issued.

4.2.4.2 The penal sum of the Surety Performance and Payment Bonds will be adjusted by the amount of each and every Change Order.

4.2.4.3 Upon receipt of a change order, that the Contractor does not agree with any of the terms or conditions or the adjustments or non adjustments of the contract price or contract time; the Contractor shall not execute or sign the change order, but shall return the unsigned change order, along with a written notification of the conditions or items that are in dispute.

4.2.4.4 If the Contractor signs or executes the change order, this constitutes an agreement on the part of the Contractor with the terms and conditions of the change

order. A change order that is mutually agreed to and signed by the parties of the contract constitutes a contract modification.

4.2.5 Claim Notification – The Contractor shall file a notice of intent to claim for a disputed change order within 30 calendar days after receipt of the written order. Failure to file the protest within the time specified constitutes an agreement on the part of the Contractor within the terms, conditions, amounts and adjustment or non-adjustment to contract price or contract time set forth in the dispute change order. The requirement for timely written notice shall be a condition precedent to the assertion of a claim.

4.2.6 Proceeding with Directed Work – Upon receipt of a contract modification, change order, or field order, the Contractor shall proceed with the directed changes and instructions. The Contractor's right to make a claim for additional compensation or an extension of time for completion is not affected by proceeding with the changes and instructions described in a change order and field order.

4.2.7 Pricing or Negotiating Costs Not Allowed – The Contractor's cost of responding to requests for price or time adjustments is included in the contract price. No additional compensation will be allowed unless authorized by the Contracting Officer.

### 4.3 DUTY OF CONTRACTOR TO PROVIDE PROPOSAL FOR CHANGES

4.3.1 A Field Order may request the Contractor to supply the Department with a proposal for an adjustment to the contract time or contract price for the work described therein. Any such request for a proposal shall not affect the duty of the Contractor to proceed as ordered with the work described in the Field Order.

4.3.2 The Engineer from time to time may issue a Bulletin to the Contractor requesting price and / or time adjustment proposals for contemplated changes in the work. A Bulletin is not a directive for the Contractor to perform the work described therein.

4.3.3 Within fifteen (15) days after receipt of a Bulletin or Field Order containing a request for proposal, the Contractor shall submit to the Engineer a detailed written statement in a format similar to the one shown in the Appendix to these General Conditions setting forth all charges the Contractor proposes for the change and the proposed adjustment of the contract time, all properly itemized and supported by sufficient substantiating data to permit evaluation. No time extension will be granted for delays caused by late Contractor pricing of changes or proposed changes. If the project is delayed because Contractor failed to submit the cost proposal within the fifteen (15) days, or as allowed by the Engineer,

performance liquidated damages will be assessed in accordance with Section 7.26 FAILURE TO COMPLETE THE WORK ON TIME.

4.3.4 No payment shall be allowed to the Contractor for pricing or negotiating proposed or actual changes.

#### **4.4 PRICE ADJUSTMENT HRS 103D-501**

4.4.1 A fully executed change order or other document permitting billing for the adjustment in price under any method listed in paragraphs (4.4.1.1) through (4.4.1.5) shall be issued within ten days after agreement on the price adjustment. Any adjustment in the contract price pursuant to a change or claim in this contract shall be made in one or more of the following ways:

4.4.1.1 By agreement on a fixed price adjustment before commencement of the pertinent performance;

4.4.1.2 By unit prices specified in the contract or subsequently agreed upon before commencement of the pertinent performance;

4.4.1.3 Whenever there is a variation in quantity for any work covered by any line item in the schedule of costs submitted as required by Section 7.2 COMMENCEMENT REQUIREMENTS, by the Department at its discretion, adjusting the lump sum price proportionately;

4.4.1.4 Force Account Method. At the sole option of the Contracting Officer, by the costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as specified in Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT and the force account provision of Section 8.3 PAYMENT FOR ADDITIONAL WORK before commencement of the pertinent performance;

4.4.1.5 In such other manner as the parties may mutually agree upon before commencement of the pertinent performance; or

4.4.1.6 In the absence of an agreement between the two parties:

4.4.1.6.a For change orders with value not exceeding \$50,000 by documented actual costs of the work, allowing for overhead and profit as set forth in Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. A change order shall be issued within fifteen days of submission by the contractor of proper documentation of completed force account work, whether periodic (conforming to the applicable billing cycle) or final. The procurement officer shall return any documentation that is defective to the contractor within fifteen days after receipt, with a statement identifying the defect; or

4.4.1.6.b For change orders with value exceeding \$50,000 by a unilateral determination by the Contracting Officer of the reasonable and necessary costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as computed by the Contracting Officer in accordance with applicable sections of Chapters 3-123 and 3-126 of the Hawaii Administrative Rules, and Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. When a unilateral determination has been made, a unilateral change order shall be issued within ten days. Upon receipt of the unilateral change order, if the contractor does not agree with any of the terms or conditions, or the adjustment or non-adjustment of the contract time or contract price, the contractor shall file a notice of intent to claim within thirty days after the receipt of the written unilateral change order. Failure to file a protest within the time specified shall constitute agreement on the part of the contractor with the terms, conditions, amounts, and adjustment or non-adjustment of the contract time or the contract price set forth in the unilateral change order.

4.4.1.7 In such other manner as the parties may mutually agree;

4.4.1.8 At the sole option of the Engineer, by the costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as specified in Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT and the force account provision of Section 8.3 PAYMENT FOR ADDITIONAL WORK; or

4.4.1.9 In the absence of an agreement between the two parties, by a unilateral determination by the Engineer of the reasonable and necessary costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as computed by the Engineer in accordance with applicable sections of Chapters 3-123 and 3-126 of the Hawaii Administrative Rules and Regulations, and Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.

4.4.2 Cost or Pricing Data – Contractor shall provide and certify cost or pricing data for any price adjustment to a contract involving aggregate increases and decreases in costs plus applicable profits expected to exceed \$100,000. The certified cost or pricing data shall be subject to the provisions of HAR chapter 3-122, subchapter 15.

#### **4.5 ALLOWANCES FOR OVERHEAD AND PROFIT HRS103D-501**

4.5.1 In determining the cost or credit to the Department resulting from a change, the allowances for all overhead, including, extended overhead resulting from adjustments to contract time (including home office, branch office and field overhead, and related delay impact costs) and profit combined, shall not exceed the percentages set forth below:

4.5.1.1 For the Contractor, for any work performed by its own labor forces, twenty percent (20%) of the direct cost;

4.5.1.2 For each subcontractor involved, for any work performed by its own forces, twenty percent (20%) of the direct cost;

4.5.1.3 For the Contractor or any subcontractor, for work performed by their subcontractors, ten percent (10%) of the amount due the performing subcontractor.

4.5.2 Not more than three markup allowance line item additions not exceeding the maximum percentage shown above will be allowed for profit and overhead, regardless of the number of tier subcontractors.

4.5.3 The allowance percentages will be applied to all credits and to the net increase of direct costs where work is added and deleted by the changes.

#### **4.6 PAYMENT FOR DELETED MATERIAL**

4.6.1 Cancelled Orders - If acceptable material was ordered by the Contractor for any item deleted by an ordered change in the work prior to the date of notification of such deletion by the Engineer, the Contractor shall use its best efforts to cancel the order. The Department shall pay reasonable cancellation charges required by the supplier excluding any markup for overhead and profit to the Contractor.

4.6.2 Returned Materials - If acceptable deleted material is in the possession of the Contractor or is ultimately received by the Contractor, if such material is returnable to the supplier and the Engineer so directs, the material shall be returned and the Contractor will be paid for the reasonable charges made by the supplier for the return of the material, excluding any markup for overhead and profit to the Contractor. The cost to the Contractor for handling the returned material will be paid for as provided in Section 4.4 PRICE ADJUSTMENT.

4.6.3 Uncancelled Materials - If orders for acceptable deleted material cannot be canceled at a reasonable cost, it will be paid for at the actual cost to the Contractor including an appropriate markup for overhead and profit as set forth in Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. In such case, the material paid for shall become the property of the State and the cost of further storage and handling shall be paid for as provided in Section 4.4 PRICE ADJUSTMENT.

#### **4.7 VARIATIONS IN ESTIMATED QUANTITIES §3-125-10 HAR**

4.7.1 Where the quantity of a major unit price item in this contract is estimated on the proposal form and where

the actual quantity of such pay item varies more than fifteen percent (15%) above or below the estimated quantity stated in this contract, an adjustment in the contract price shall be made upon demand of either party.

The adjustment shall be based upon any increase or decrease in costs due solely to the variation above one hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity. The adjustment shall be subject to Section 4.4 PRICE ADJUSTMENT and Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. If the quantity variation is such as to cause an increase in the time necessary for completion, the Engineer shall, upon receipt of a written request for an extension of time within thirty (30) days of the item's completion, ascertain the facts and make such adjustment to the completion date as the Engineer finds justified.

#### **4.8 VARIATIONS IN BOTTOM ELEVATIONS**

The Contractor shall plan and construct to the bottom elevations of footings, piles, drilled shafts, or cofferdams as shown on the drawings. When the bottom of a pile, drilled shaft, or cofferdam is shown as an estimated or approximate elevation, the Contractor shall plan and construct to that elevation or to any deeper elevation required by the drawings or direction of the Engineer. In the event the bottom elevation is lowered, the Contractor shall be entitled to additional payment in accordance with Sections 4.4 PRICE ADJUSTMENT and 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. In the event the bottom elevation is raised, the State shall be entitled to a credit in accordance with Sections 4.2 CHANGES, 4.4 PRICE ADJUSTMENT and 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.

#### **4.9 DIFFERING SITE CONDITIONS**

§3-125-11 HAR

4.9.1 During the progress of the work, if the Contractor encounters conditions at the site differing materially from those shown in the drawings and specifications, Contractor shall promptly, and before any such conditions are disturbed or damaged (except in an emergency as required by subsection 7.17.8), notify the Engineer in writing of:

4.9.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the contract; or

4.9.1.2 Unknown physical conditions at the site, of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract.

4.9.2 After receipt of written notice, the Engineer shall promptly investigate the site, and if it is found that such conditions do materially differ and cause an increase in the Contractor's cost of, or the time required to, perform any part of the Work, whether or not changed as a result

of such conditions, an adjustment shall be made and the contract modified accordingly. Any adjustment in contract price made pursuant to this Section 4.9 shall be determined in accordance with Sections 4.4 PRICE ADJUSTMENT and 7.25 DISPUTES AND CLAIMS.

4.9.3 Nothing contained in this Section 4.9 shall be grounds for an adjustment in compensation if the Contractor had actual knowledge or should have known of the existence of such conditions prior to the submission of bids.

#### **4.10 UTILITIES AND SERVICES**

4.10.1 The cost of all the following will be included in the contract price and the Contractor shall be fully responsible for:

4.10.1.1 Reviewing and checking all such information and data,

4.10.1.2 Locating all underground and overhead utilities shown or indicated in the contract documents,

4.10.1.3 Coordination of the Work with the Owners of such underground and overhead utilities during construction, and

4.10.1.4 The safety and protection of all such underground and overhead utilities as provided in Section 7.17 PROTECTION OF PERSONS AND PROPERTY and repairing any damage thereto resulting from the work.

4.10.2 Unknown Utilities - During the progress of the work, if an underground utility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, or found at a location that is substantially different than shown or indicated in the Contract Documents, Contractor shall promptly, and before any such conditions are disturbed or damaged (except in an emergency as required by subsection 7.17.8), notify the Engineer. Contractor shall be responsible for the safety and protection of the underground utility as provided in Section 7.17 PROTECTION OF PERSONS AND PROPERTY. Refer to subsections 4.9.2 and 4.9.3.

4.10.3 If the Engineer determines a change in the Contract Documents is required, a Field Order or Change Order will be issued. Upon issuance of a duly authorized Field Order or Change Order regarding the disposition of a newly discovered utility, Contractor shall be responsible for damages to the utility, including any damage claims due to the disruption of service caused by the utility being damaged.

4.10.4 Restoration of Damaged Utilities - The Contractor shall repair and restore to pre-damaged

condition any utilities or any other property it damaged. The Contractor shall be liable for any resulting damages, to the Work or to the utility owner or property owner and shall pay any claim due to the disruption of service caused by the utilities being damaged. Contractor shall defend and save harmless the State from all suits, actions or claims of any character brought on account of such damages, whether or not the State may have been partially at fault. Contractor shall obtain public liability and property damage insurance pursuant to Article 7 PROSECUTION AND PROGRESS to cover such risk of damage.

4.10.5 In the event the Contractor, simultaneously with the discovery of an unknown utility or other property, damages that utility or other property, the Contractor shall immediately notify the Engineer. If the Contractor is without fault in such a situation, notwithstanding subsection 4.10.4, the Contractor shall not be liable for resulting damages or the defense of the State from claims brought on account of said damages to unknown utilities or other property. Upon instruction from the Engineer, the Contractor shall repair all damages and execute a plan for dealing with the damaged utility or other property. This repair work shall be considered additional work as covered in Section 4.2 CHANGES.

### **ARTICLE 5 - Control of Work**

#### **5.1 AUTHORITY OF THE ENGINEER**

5.1.1 The Engineer shall make final and conclusive decisions on all questions which may arise relating to the quality and acceptability of the materials furnished and work performed, the manner of performance and rate of progress of the work, the interpretation of the Contract Documents, the acceptable fulfillment of the contract on the part of the Contractor, the compensation under the Contract and the mutual rights of the parties to the Contract.

5.1.2 The Engineer shall have the authority to enforce and make effective such decisions and orders at the Contractor's expense when the Contractor fails to carry such decisions and orders out promptly and diligently.

5.1.3 The Engineer shall have the authority to suspend the work wholly or in part as provided in Section 7.24 SUSPENSION OF WORK.

5.1.4 The Engineer may delegate specific authority to act for the Engineer to a specific person or persons. Such delegation of authority shall be established in writing to the Contractor.

#### **5.2 AUTHORITY OF THE INSPECTOR**

5.2.1 The Inspector shall observe and inspect the contract performance and materials. The Inspector does

not have any authority vested in the Engineer unless specifically delegated in writing.

5.2.2 The Inspector may offer advice and recommendations to the Contractor, but any such advice or recommendations are not directives from the Engineer.

5.2.3 The Inspector has no authority to allow deviations from the Contract Documents and may reject any and all work that the Inspector deems is not in conformity with the contract requirements. Failure of an Inspector at any time to reject non-conforming work shall not be considered a waiver of the Department's right to require work in strict conformity with the Contract Documents as a condition of final acceptance.

**5.3 AUTHORITY OF CONSULTANT(S)** - The Department may engage Consultant(s) for limited or full observation to supplement the inspections performed by the State and respective Counties. Unless otherwise specified in writing to the Contractor, such retained Consultant(s) will have the authority of a Project Inspector.

#### **5.4 SHOP DRAWINGS AND OTHER SUBMITTALS**

5.4.1 The following documents shall be submitted where required by the contract documents:

##### 5.4.1.1 Shop Drawings

(1) The Contractor shall prepare, and thoroughly check, approve, all shop drawings, including those prepared by subcontractors or any other persons. The Contractor shall indicate its approval by stamping and signing each drawing. Any shop drawing submitted without being reviewed, stamped and signed will be considered as not having been submitted, and any delay caused thereby shall be the Contractor's responsibility.

(2) Shop drawings shall indicate in detail all parts of an item of work, including erection and setting instructions and engagements with work of other trades or other separate contractors. Shop drawings for structural steel, millwork and pre-cast concrete shall consist of calculations, fabrication details, erection drawings and other working drawings, as necessary, to show the details, dimensions, sizes of members, anchor bolt plans, insert locations and other information necessary for the complete fabrication and erection of the structure to be constructed.

(3) All shop drawings as required by the contract, or as determined by the Engineer to be necessary to illustrate details of the Work shall be submitted to the Engineer with such promptness as to cause no delay in the work or in that of any other Contractor. Delay caused by the failure of the Contractor to submit shop drawings on a

timely basis to allow for review, possible resubmittal and acceptance will not be considered as a justifiable reason for a contract time extension. Contractor, at its own risk, may proceed with the work affected by the shop drawings before receiving acceptance; however the Department shall not be liable for any costs or time required for the correction of work done without the benefit of accepted shop drawings.

(4) It is the Contractor's obligation and responsibility to check all of its and its subcontractor's shop drawings and be fully responsible for them and for coordination with connecting and other related work. The Contractor shall prepare, and submit to the Engineer coordination drawings showing the installation locations of all plumbing, piping, duct and electrical work including equipment throughout the project. By approving and submitting shop drawings, the Contractor thereby represents that it has determined and verified all field measurements and field construction criteria, or will do so, and that it has checked and coordinated each shop drawing with the requirements of the work and the contract documents. When shop drawings are prepared and processed before field measurements and field construction criteria can be or have been determined or verified, the Contractor shall make all necessary adjustments in the work or resubmit further shop drawings, all at no change in contract price or time.

5.4.1.2 Shop Drawing Form - Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and number of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:

- (1) Date of Submission
- (2) Name of Project
- (3) Project Number
- (4) Location of Project
- (5) Name of submitting Contractor and Subcontractor
- (6) Revision Number

5.4.1.3 The size of the sheets that shop drawings are prepared on shall be as appropriate to suit the drawing being presented so that the information is clearly and legibly depicted. At the determination of the Engineer, for each sheet of drawings, the submittal shall consist of either; one reproducible transparency and five prints, or eight prints.

5.4.1.4 Descriptive Sheets and Other Submittals - When a submittal is required by the contract, the Contractor shall submit to the Engineer eight (8) complete sets of descriptive sheets such as shop drawings, brochures, catalogs, illustrations, calculation, material safety data sheets (MSDS), certificates, reports, warranty, etc., which will completely describe the material, product, equipment,

furniture or appliances to be used in the project as shown in the drawings and specifications and how it will be integrated into adjoining construction. When submittals are specified to be submitted under Web Based Construction Management System, the number of complete sets will be as specified or as directed by the Engineer. Prior to the submittal, the Contractor shall review and check all submittal sheets for conformity to the contract requirements and indicate such conformity by marking or stamping and signing each sheet. Where descriptive sheets include materials, systems, options, accessories, etc. that do not apply to this contract, non-relevant items shall be crossed out so that all remaining information will be considered applicable to this contract. It is the responsibility of the Contractor to submit descriptive sheets for review and acceptance by the Engineer as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit descriptive sheets as required will not be considered as justifiable reasons for contract time extension.

5.4.1.5 Material Samples and Color Samples – When material and color sample submittals are required by the contract, the Contractor shall submit to the Engineer no less than three (3) samples conforming to Section 6.6 MATERIAL SAMPLES. One sample will be retained by the Consultant, one sample will be retained by the State, and the remaining sample(s) will be returned to the contractor. Prior to the material and color submittal, the Contractor shall review and check all samples for conformity to the contract requirements and indicate such conformity by marking or stamping and signing each sample. It is the responsibility of the Contractor to submit samples for review and acceptance by the Engineer as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit material and color samples as required will not be considered as justifiable reasons for contract time extension.

5.4.1.6 Unless the technical sections (Divisions 2 – 16) specifically require the Contractor furnish a greater quantity of shop drawings and other submittals, the Contractor shall furnish the quantities required by this section.

5.4.2 Submittal Variances - The Contractor shall include with the submittal, written notification clearly identifying all deviations or variances from the contract drawings, specifications and other Contract Documents. The notice shall be in a written form separate from the submittal. The variances shall also be clearly indicated on the shop drawing, descriptive sheet, material sample or color sample. Failure to so notify of and identify such variances shall be grounds for the subsequent rejection of the related work or materials, notwithstanding that the submittal was accepted by the Engineer. If the variances are not acceptable to the Engineer, the Contractor will be

required to furnish the item as specified or indicated on the contract documents at no additional cost or time.

5.4.3 Review and Acceptance Process - Submittals will be returned to the Contractor within twenty one (21) days (for projects on Oahu) and twenty five (25) days (for projects on the islands of Hawaii, Maui, Kauai, Molokai and Lanai) after receipt by the Engineer unless otherwise agreed between the Contractor and the Engineer or as stated elsewhere in the contract documents.

5.4.3.1 The acceptance by the Engineer of the Contractor's submittal relates only to their sufficiency and compliance with the intention of the contract. Acceptance by the Engineer of the Contractor's submittal does not relieve the Contractor of any responsibility for accuracy of dimensions, details, and proper fit, and for agreement and conformity of submittal with the contract drawings and specifications. Nor will the Engineer's acceptance relieve the Contractor of responsibility for variance from the contract documents unless the Contractor, at the time of submittal, has provided notice and identification of such variances required by this section. Acceptance of a variance shall not justify a contract price or time adjustment unless the Contractor requests such an adjustment at the time of submittal and the adjustment are explicitly agreed to in writing by the Engineer. Any such request shall include price details and proposed scheduling modifications. Acceptance of a variance is subject to all contract terms, stipulations and covenants, and is without prejudice to any and all rights under the surety bond.

5.4.3.2 If the Engineer returns a submittal to the Contractor that has been rejected, the Contractor, so as not to delay the work, shall promptly make a resubmittal conforming to the requirements of the contract documents and indicating in writing on the transmittal and the subject submittal what portions of the resubmittal has been altered in order to meet the acceptance of the Engineer. Any other differences between the resubmittal and the prior submittal shall also be specifically described in the transmittal.

5.4.3.3 No mark or notation made by the Engineer on or accompanying the return of any submittal to the Contractor shall be considered a request or order for a change in work. If the Contractor believes any such mark or notation constitutes a request for a change in the work for which it is entitled to an adjustment in contract price and/or time, the Contractor must follow the same procedures established in Section 4.2 CHANGES for oral orders, directions, instructions, interpretations or determinations from the Engineer or else lose its right to claim for an adjustment.

**5.5 COORDINATION OF CONTRACT DOCUMENTS** - It is the intent of the Contract Documents to describe a functionally complete Project (or



part thereof) to be constructed in accordance with the Contract Documents. The Contract Documents are complementary: any requirement occurring in one document is as binding as though occurring in all. In the event of conflict or discrepancy the priorities stated in the following subparagraphs shall govern:

5.5.1 Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda only to the extent specified.

5.5.2 SPECIAL CONDITIONS and Proposal shall govern over the GENERAL CONDITIONS and Specifications.

5.5.3 Specifications shall govern over drawings.

5.5.4 Specification Error - Should an error or conflict appear within the specification, the Contractor shall immediately notify the Engineer. The Engineer shall promptly issue instructions as to procedure. Any requirement occurring in one or more parts of the specification is as binding as though occurring in all applicable parts.

5.5.4.1 Should an error or conflict appear within a specification section, between a listed manufacturer / product and the performance requirements of the specification section, the performance requirements shall govern.

5.5.5 Drawings:

5.5.5.1 Schedules shall govern over all other notes and drawings.

5.5.5.2 Bottom elevations of footings shown on drawings shall govern over a general note such as: "All footings shall rest on firm, undisturbed soil and extend a minimum of a certain number of feet into natural or finish grade, whichever is lower."

5.5.5.3 Except for drawing schedules and bottom elevations as noted above, general notes shall govern over all other portions of the drawings:

5.5.5.4 Larger scale drawings shall govern over smaller scale drawings.

5.5.5.5 Figured or numerical dimensions shall govern over dimensions obtained by scaling. Measurements from the drawings when scaled shall be subject to the approval of the Engineer.

5.5.5.6 In cases of discrepancies in the figures or drawings, the discrepancies shall be immediately referred to the Engineer without whose decision said discrepancy shall not be corrected by the Contractor save at its own risk and in the settlement of any complications arising

from such adjustment without the knowledge and consent of the Engineer, the Contractor shall bear all extra expense involved.

5.5.5.7 Items shown on the drawings that are completely void in terms of description, details, quality and / or performance standards in both the drawings and specifications to make a price determination shall be considered an omission and the Contractor shall immediately refer same to the Engineer for a decision.

5.5.5.8 Where there is a conflict between the architectural sheets and the civil or landscaping or electrical sheets, etc., the conflict shall be considered a discrepancy and the Contractor shall immediately refer same to the Engineer for a decision.

5.5.5.9 Any requirement occurring in one or more of the sheets is as binding as though occurring in all applicable sheets.

**5.6 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS** - The Contractor shall carefully study and compare the Contract Documents with each other, with field conditions and with the information furnished by the State and shall at once report to the Engineer errors, conflicts, ambiguities, inconsistencies or omissions discovered. Should an item not be sufficiently detailed or explained in the Contract Documents, Contractor shall report and request the Engineer' clarification and interpretation. The Engineer will issue a clarification or interpretation that is consistent with the intent of and reasonably inferred from Contract Documents.

**5.7 EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE**

5.7.1 The Contractor shall examine carefully the Project Site to become familiar with the conditions to be encountered in performing the Work and the requirements of the Contract Documents.

5.7.1.1 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge of the requirements of the Work to be accomplished or the conditions to be encountered in performing the project.

5.7.1.2 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge when the existence of differing site, subsurface or physical conditions could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding requirements or Contract Documents to be conducted by or for the Contractor.

5.7.2 When the Contract Drawings include a log of test borings showing a record of the data obtained by the Department's investigation of subsurface conditions, said log represents only the opinion of the Department as to the character of material encountered in its test borings and at only the location of each boring. The Contractor acknowledges that underground site conditions in Hawaii vary widely. There is no warranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work or any part of it, or that other conditions may not occur.

5.7.3 Reference is made to the SPECIAL CONDITIONS for identification of subsurface investigations, reports, explorations and tests utilized by the State in preparation the Contract Documents. Such reports, drawings, boring logs etc. are not part of the Contract Documents.

## **5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT**

5.8.1 Furnishing Drawings and Specifications - Contractor to supply copies of the Contract Drawings and Specifications. Contractor shall have and maintain at least one copy of the Contract Drawings and Specifications on the work site, at all times. Contractor shall cooperate with the Engineer, the Inspector(s), and other contractors in every possible way.

5.8.2 Superintendent - The Contractor shall have a competent superintendent or agent on the work site while work is being performed under the contract. The superintendent or agent shall be experienced in the type of project being undertaken and the work being performed. The superintendent or agent shall represent the Contractor and shall have the authority to act on behalf of the Contractor. Communications given to the superintendent or agent shall be as binding as if given to the Contractor.

5.8.2.1 If the superintendent or agent is not present at the work site, the Engineer shall have the right to suspend the work as described under Section 7.24 SUSPENSION OF WORK.

5.8.2.2 The Contractor shall file with the Engineer a written statement giving the name of the superintendent or agent assigned to the project. The Contractor shall be responsible for notifying the Engineer in writing of any change in the superintendent or agent.

5.8.2.3 The requirements of this subsection 5.8.2 may be waived by the Engineer.

5.8.3 Engineering Work - The Contractor shall properly and accurately lay out the work, perform all engineering work, and furnish all engineering materials and equipment required to establish and maintain all lines, grades, dimensions and elevations called for in the

drawings or required in the progress of construction, unless otherwise noted in the contract documents. The Contractor will be held definitely and absolutely responsible for any errors in lines, grades, dimensions and elevations and shall at once, on instruction from the Engineer, correct and make good such errors or any errors, or faults in the work resulting from errors in engineering performed under the requirements of its contract to the entire satisfaction of the Engineer. Full compensation for the work shall be included in the prices paid for contract items of work. No additional allowance will be made for the correction of incorrect engineering work.

5.8.3.1 The Engineer shall furnish the requisite bench elevations.

5.8.3.2 The Contractor shall locate and verify all lines, grades, dimensions and elevations indicated on the drawings before any excavation, or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, any change shall be made in accordance with the Engineer's instruction.

5.8.3.3 The Contractor shall verify all street survey monuments (horizontal and vertical alignment) prior to final acceptance by the Engineer in accordance with any governmental requirements.

5.8.3.4 The Contractor shall provide a surveyor or Civil Engineer licensed in the State of Hawaii to verify and establish all lines, grades, dimensions and elevations.

5.8.4 Use of Structure or Improvement - The Department shall have the right, at any time during construction of the structure or improvements, to enter same for the purpose of installing by government labor or by any other Contractor or utility any necessary work in connection with the installation of facilities, it being mutually understood and agreed, however, that the Contractors, utilities and the Department will, so far as possible work to the mutual advantage of all, where their several works in the above mentioned or in unforeseen instances touch upon or interfere with each other.

As a convenience to those involved, the Engineer shall allocate the work and designate the sequence of construction in case of controversy between Contractors on separate projects under State jurisdiction.

5.8.4.1 The Department shall also have the right to use the structure, equipment, improvement or any part thereof, at any time after it is considered by the Engineer as available. In the event that the structure, equipment or any part thereof is so used, the Department shall be responsible for all expenses incidental to such use and any damages resulting from the Department's use.

5.8.4.2 Equipment warranty will commence to run before the work is complete when and if the Department begins actual use of the equipment for the purpose for which the equipment was designed and installed.

5.8.4.3 If the Department enters the structure for construction and / or occupancy and the Contractor is delayed because of interference by the Department or by extra work resulting from damage which the Contractor is not responsible for, or by extraordinary measures the Contractor must take to accommodate the Department, the Contractor shall be granted an extension of time in accordance with Section 7.21 CONTRACT TIME. However, if such use increases the cost or delays the completion of the remaining portions of work, the Contractor shall be entitled to such extra compensation or extension of time or both, as the State may determine to be proper. Any additional work necessary will be paid in accordance with Section 8.3 PAYMENT FOR ADDITIONAL WORK.

**5.9 INSPECTION** - The Engineer, the Department's consultants, Inspectors employed by the Department and other representatives duly authorized by the Department shall at all times have access to the work during its construction and shall be furnished with every reasonable facility for ascertaining at any time that the materials and the workmanship are in accordance with the requirements and intentions of the contract. All work done and all materials furnished shall be subject to inspection and acceptance.

5.9.1 Such inspection and approval may extend to all or part of the work, and to the preparation, fabrication or manufacture of the materials to be used. By entering into a contract for the supply of materials, equipment or performance of labor in connection with the Work, such Material and Equipment Supplier or Labor Contractor consents to and is subject to the terms of this Section 5.9 to the same extent as the Contractor.

5.9.2 Authority to Suspend Operations - The Inspector shall have the authority to suspend operations of any work being improperly performed by issuing a written order giving the reason for shutting down the work. Should the Contractor disregard such written order, the work done thereafter will not be accepted nor paid for.

5.9.3 The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill the contract as prescribed. Notwithstanding prior payment and acceptance by the Engineer, defective and nonconforming work shall be corrected to comply with the contract requirements. Unsuitable, unspecified or unapproved materials may be rejected.

5.9.4 Federal Agency Inspection - Projects financed in whole or in part with Federal funds shall be subject to

inspection and corrective requirements at all times by the Federal Agency involved at no cost to the State.

#### **5.10 REMOVAL OF DEFECTIVE, NON-CONFORMING AND UNAUTHORIZED WORK**

5.10.1 All work which has been rejected as not conforming to the requirements of the Contract shall be remedied or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed for such removal or replacement. Any work done beyond the work limits shown on the drawings and specifications or established by the Engineer or any additional work done without written authority will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor expense.

5.10.2 Scheduling Corrective Work - The Contractor shall perform its corrective or remedial work at the convenience of the State and shall obtain the Engineer's approval of its schedule.

5.10.3 Failure to Correct Work - Upon failure on the part of the Contractor to comply promptly with any order of the Engineer made under the provisions of this Section 5.10, the Engineer shall have authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, at the Contractor's expense, and to deduct the costs from any monies due or to become due the Contractor.

#### **5.11 VALUE ENGINEERING INCENTIVE**

§3-132 HAR amended by Act 149 SLH 1999 - On projects with contract amounts in excess of \$250,000, the following Value Engineering Incentive Clause shall apply to allow the Contractor to share in cost savings that ensue from cost reduction proposals it submits.

5.11.1 The Value Engineering Incentive Clause applies to all Value Engineering Change Proposals (cost reduction proposals, hereinafter referred to as (VECP) initiated and developed by the Contractor for changing the drawings, designs, specifications or other requirements of this contract. This clause does not, however apply to any VECP unless it is identified as such by the Contractor at the time of its submission to the Engineer.

5.11.2 Value Engineering Change Proposal - All VECP must:

5.11.2.1 Result in a savings to the State of at least four thousand dollars (\$4,000) by providing less costly items than without impairing any essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance and all necessary features of the completed work.

5.11.2.2 Require, in order to be applied to this contract, a change order to this contract.

5.11.2.3 Not adversely impact on the schedule of performance or the contract completion date.

5.11.3 VECP Required Information - The VECP will be processed expeditiously and in the same manner as prescribed for any other change order proposal. As a minimum, the following information will be submitted by the Contractor with each proposal:

5.11.3.1 A description of the difference between the existing contract requirements and the VECP, and the comparative advantages and disadvantages of each including durability, service life, reliability, economy of operation, ease of maintenance, design safety standards, desired appearance, impacts due to construction and other essential or desirable functions and characteristics as appropriate;

5.11.3.2 An itemization of the requirements of the contract which must be changed if the VECP is adopted and a recommendation as to how to make each such change;

5.11.3.3 An estimate of the reduction in performance costs that will result from adoption of the VECP taking into account the costs of implementation by the Contractor, including any amounts attributable to subcontracts, and the basis for the estimate;

5.11.3.4 A prediction of any effects the VECP would have on other costs to the State, such as State furnished property costs, costs of related items, and costs of maintenance and operation over the anticipated life of the material, equipment, or facilities as appropriate; the construction schedule, sequence and time; and bid item totals used for evaluation and payment purposes;

5.11.3.5 A statement of the time by which a change order adopting the VECP must be issued so as to obtain the maximum cost reduction during the remainder of this contract noting any effect on the contract time; and

5.11.3.6 The dates of any previous submissions of the VECP, the numbers of any Government contracts under which submitted and the previous actions by the Government, if known.

5.11.4 Required Use of Licensed Architect or Engineer - When, in the judgment of the Engineer, a VECP alters the design prepared by a registered professional architect or engineer, the Contractor shall ensure the changes to be prepared are by or under the supervision of a licensed professional architect or engineer, and stamped and so certified.

5.11.5 Unless and until a change order applies a VECP to a contract, the Contractor shall remain obligated to perform in accordance with the terms of the contract and the Department shall not be liable for delays incurred by the Contractor resulting from the time required for the Department's determination of the acceptability of the VECP.

5.11.5.1 The determination of the Engineer as to the acceptance of any VECP under a contract shall be final.

5.11.6 Acceptance of VECP - The Engineer may accept in whole or in part any VECP submitted pursuant to this section by issuing a change order to the contract. Prior to issuance of the change order, the Contractor shall submit complete final contract documents similar to those of the original contract showing the accepted changes and the new design and features as well as the following:

5.11.6.1 Design calculations;

5.11.6.2 The design criteria used; and

5.11.6.3 A detailed breakdown of costs and expenses to construct or implement such revisions.

5.11.6.4 The change order will identify the final VECP on which it is based.

5.11.7 VECP Price Adjustments - When a VECP is accepted under a contract, an adjustment in the contract price shall be made in accordance with Section 4.4 PRICE ADJUSTMENT. The adjustment shall first be established by determining the effect on the Contractor's cost of implementing the change, including any amount attributable to subcontractors and to the Department's charges to the Contractor for architectural, engineering, or other consultant services, and the staff time required to examine and review the proposal. The contract price shall then be reduced by fifty percent (50%) of the net estimated decrease in the cost of performance.

5.11.8 The Contractor may restrict the Department's right to use the data or information or both, on any sheet of a VECP or of the supporting data, submitted pursuant to this paragraph, if it is stated on that sheet as follows:

5.11.8.1 "This data or information or both shall not be disclosed outside the Department or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this VECP. This restriction shall not limit the Department's right to use this data or information or both if obtained from another source, or is otherwise available, without limitations. If this VECP is accepted by the Department by issuance of a change order after the use of this data or information or both in such an evaluation, the Department shall have the right to duplicate, use and disclose any data or information or

both pertinent to the proposal as accepted in any manner and for any purpose whatsoever and have others so do.”

5.11.9 In the event of acceptance of a VECP, the Department shall have all rights to use, duplicate or disclose in whole or in part in any manner and for any purpose whatsoever, and to have or permit others to do so, any data or information or both reasonably necessary to fully utilize such proposal.

5.11.10 The Contractor shall submit with each VECP all required information and provide all additional information as may be required by the Engineer to evaluate and implement the VECP. The cost for preparing the VECP shall be the Contractor’s responsibility, and any part of the Contractor’s cost for implementing the change shall be due only when the proposal is accepted and a change order is issued.

5.11.11 If the services of the Department’s architect, engineer or consultant is necessary to review and evaluate a VECP, the cost therefore shall be paid for by the Contractor.

5.11.12 Each VECP shall be evaluated as applicable to this contract, and past acceptance on another Department project for a similar item shall not be automatic grounds for approval.

5.11.13 The method by which the Contractor will share a portion of the cost savings from an accepted VECP shall be for this contract only, and no consideration shall be made for future acquisition, royalty type payment or collateral savings.

5.11.13.1 The Department may accept the proposed VECP in whole or in part. The Engineer shall issue a contract change order to identify and describe the accepted VECP.

**5.12 SUBCONTRACTS** - Nothing contained in the contract documents shall create a contractual relationship between the State and any subcontractor. The contractor may subcontract a portion of the work but the contractor shall remain responsible for the work that is subcontracted.

5.12.1 Replacing Subcontractors - Contractors may enter into subcontracts only with subcontractors listed in the offer form. The contractor will be allowed to replace a listed subcontractor if the subcontractor:

5.12.1.1 Fails, refuses or is unable to enter into a subcontract consistent with the terms and conditions of the subcontractor’s offer presented to the contractor; or

5.12.1.2 Becomes insolvent; or

5.12.1.3 Has any license or certification necessary for performance of the work suspended or revoked; or

5.12.1.4 Has defaulted or has otherwise breached the subcontract in connection with the subcontracted work; or

5.12.1.5 Agrees to be substituted by providing a written release; or

5.12.1.6 Is unable or refuses to comply with other requirements of law applicable to contractors, subcontractors, and public works projects.

5.12.2 Notice of Replacing Subcontractor – The contractor shall provide a written notice to the Contracting Officer when it wishes to replace a subcontractor, including in the notice, the reasons for replacement. The contractor agrees to defend, hold harmless and indemnify the State against all claims, liabilities, or damages whatsoever, including attorneys fees arising out of or related to the replacement of a subcontractor. The contractor may not replace the subcontractor until the Contracting Officer approves of the replacement.

5.12.3 Adding Subcontractors – The Contractor may enter into a subcontract with a subcontractor that is not listed in the offer form only after this contract becomes enforceable and only after the Contracting Officer has approved the subcontractor.

5.12.4 Subcontracting - Contractor shall perform with its own organization, work amounting to not less than twenty (20%) of the total contract cost, exclusive of costs for materials and equipment the Contractor purchases for installation by its subcontractors, except that any items designated by the State in the contract as “specialty items” may be performed by a subcontract and the cost of any such specialty items so performed by the subcontract may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor with its own organization.

## **ARTICLE 6 - Control of Materials and Equipment**

**6.1 MATERIALS AND EQUIPMENT** - Contractor shall furnish, pay for and install all material and equipment as called for in the drawings and specifications. Materials and equipment shall be new and the most suitable for the purpose intended unless otherwise specified. The State does not guarantee that the specified or pre-qualified product listed in the drawings and specifications are available at the time of bid or during the contract period.

**6.2 SOURCE OF SUPPLY AND QUALITY OF MATERIALS**

6.2.1 Only materials conforming to the drawings and specifications and, when required by the contract have been accepted by the Engineer, shall be used. In order to expedite the inspection and testing of materials, at the request of the Engineer, the Contractor shall identify its proposed sources of materials within ten (10) days after notification by the Engineer.

6.2.2 At the option of the Engineer, the materials may be accepted by the Engineer at the source of supply before delivery is started. Representative preliminary samples of the character and quantity prescribed shall be submitted by the Contractor or producer for examination and tested in accordance with the methods referred to under samples and tests.

6.2.3 Engineer's Authorization to Test Materials - Materials proposed to be used may be inspected and tested whenever the Engineer deems necessary to determine conformance to the specified requirements. The cost of testing shall be borne by the Contractor. However, should test results show that the material(s) is in compliance with the specified requirements, the cost of the testing will be borne by the State.

6.2.4 Unacceptable Materials - In the event material(s) are found to be unacceptable, the Contractor shall cease their use, remove the unacceptable material(s) that have already been installed or applied, and furnish acceptable materials all at no additional cost to the State. No material which is in any way unfit for use shall be used.

### **6.3 SUBSTITUTION AFTER CONTRACT AWARD**

6.3.1 Materials, equipment, articles and systems noted on the drawings and specifications, establish a standard of quality, function, performance or design requirements and shall not be interpreted to limit competition. Should trade names, makes, catalog numbers or brand names be specified, the contractor shall infer that these items indicate the quality, style, appearance or performance of the material, equipment, article, or systems to be used in the project. The contractor is responsible to use materials, equipment, articles or systems that meet the project requirements. Unless specifically provided otherwise in the contract documents, the contractor may, at its option, use any material equipment, article or system that, in the judgment of the Contracting officer, is equal to that required by the contract documents.

6.3.1.1 If after installing a material, equipment, article or system a variance is discovered, the contractor shall immediately replace the material, equipment, article or system with one that meets the requirements of the contract documents.

6.3.2 Substitution After Contract Award - Subject to the Contracting Officer's determination; material,

equipment, article or system with a variant feature(s) may be allowed as a substitution, provided it is in the State's best interest. The State may deny a substitution; and if a substitution is denied, the contractor is not entitled to any additional compensation or time extension.

6.3.2.1 The contractor shall include with the submittal, a notification that identifies all deviations or variances from the contract documents. The notice shall be in a written form separate from the submittal. The variances shall be clearly shown on the shop drawing, descriptive sheet, and material sample or color sample; and the contractor shall certify that the substitution has no other variant features. Failures to identify the variances are grounds to reject the related work or materials, notwithstanding that the Contracting Officer accepted the submittal. If the variances are not acceptable to the Contracting Officer, the contractor will be required to furnish the item as specified on the contract documents at no additional cost or time.

6.3.2.2 Acceptance of a variance shall not justify a contract price or time adjustment unless the contractor requests an adjustment at the time of submittal and the adjustments are explicitly agreed to in writing by the Contracting Officer. Any request shall include price details and proposed scheduling modifications. Acceptance of a variance is subject to all contract terms, and is without prejudice to all rights under the surety bond.

6.3.2.3 The contractor can recommend improvements to the project, for materials, equipment, articles, or systems by means of a substitution request, even if the improvements are at an additional cost. The Contracting Officer shall make the final determination to accept or reject contractor's proposed improvements. If the proposal material, equipment, article or system cost less than the specified item, the Department will require a sharing of cost similar to value engineering be implemented. State reserves its right to deny a substitution; and if a substitution is denied, the contractor is not entitled to additional compensation or time extension.

6.3.2.4 If the specified material and / or equipment inadvertently lists only a single manufacturer.

6.3.3 A substitution request after Contract Award shall be fully explained in writing. Contractor shall provide brochures showing that the substitute material and / or equipment is equal or better in essential features and also provide a matrix showing comparison of the essential features. Contractor shall justify its request and include quantities and unit prices involved, respective supplier's price quotations and such other documents necessary to fully support the request. Any savings in cost will be credited to the Department. Contractor shall absorb any additional cost for the substitute item(s) or for its

installation. Submitting a substitution request, does not imply that substitutions, for brand name specified materials and equipment, will be allowed. The Engineer may reject and deny any request deemed irregular or not in the best interest of the Department. A request for substitution shall not in any way be grounds for an extension of contract time. At the discretion of the Engineer, a time extension may be granted for an approved substitution.

#### **6.4 ASBESTOS CONTAINING MATERIALS -**

The use of materials or equipment containing asbestos is prohibited under this contract. Contractor warrants that all materials and equipment incorporated in the project are asbestos-free.

#### **6.5 TEST SAMPLES**

6.5.1 The Engineer may require any or all materials to be tested by means of samples or otherwise. Contractor shall collect and forward samples requested by the Engineer. Contractor shall not use or incorporate any material represented by the samples until all required tests have been made and the material has been accepted. In all cases, the Contractor shall furnish the required samples without charge. Where samples are required from the completed work, the Contractor shall cut and furnish samples from the completed work. Samples so removed shall be replaced with identical material and refinished. No additional compensation will be allowed for furnishing test samples and their replacement with new materials.

6.5.2 Tests of the material samples will be made in accordance with the latest standards of the American Society for Testing and Materials (ASTM), as amended prior to the contract date unless otherwise provided. In cases where a particular test method is necessary or specifications and serial numbers are stipulated, the test shall be made by the method stated in the above-mentioned publication. Where the test reference is the American Association of State Highway and Transportation Officials (AASHTO), it means the specifications and serial numbers of the latest edition and amendments prior to the bid date.

6.5.3 The Engineer may retest any materials which have been tested and accepted at the source of supply after the same has been delivered to the work site. The Engineer shall reject all materials which, when retested, do not meet the requirements of the contract.

#### **6.6 MATERIAL SAMPLES**

6.6.1 The Contractor shall furnish all samples required by the drawings and specifications or that may be requested by the Engineer of any and all materials or equipment it proposes to use. Unless specifically required, samples are not to be submitted with the bid.

6.6.2 No materials or equipment of which samples are required shall be used on the Work until the Engineer has received and accepted the samples. If the Contractor proceeds to use such materials before the Engineer accepts the samples, the Contractor shall bear the risk.

6.6.3 Contractor shall furnish two (2) copies of a transmittal letter with each shipment of samples. The letter shall provide a list of the samples, the name of the building or work for which the materials are intended and the brands of the materials and names of the manufacturers. Also, each sample submitted shall have a label indicating the material represented, its place of origin, the names of the producer, the Contractor and the building or work for which the material is intended. Samples of finished materials shall be marked to indicate where the materials represented are required by the drawings or specifications.

6.6.4 Acceptance of any sample(s) shall be only for the characteristics or for the uses named in such acceptance and for no other purpose. Acceptance of samples shall not change or modify any contract requirement. All samples will be provided by the Contractor at no extra cost to the Department. See also Section 5.4 SHOP DRAWINGS AND OTHER SUBMITTALS.

**6.7 NON-CONFORMING MATERIALS** - All materials not conforming to the requirements of these contract documents, whether in place or not, shall be rejected and removed immediately from the site of work unless otherwise permitted by the Engineer in writing. No rejected material which has subsequently been made to conform shall be used unless and until written acceptance has been given by the Engineer. If the Contractor fails to comply forthwith with any order of the Engineer made under the provisions of this Section 6.7, the Engineer shall have the authority to remove and replace non-conforming materials and charge the cost of removal and replacement to the Contractor.

**6.8 HANDLING MATERIALS** - Contractor shall handle all materials to preserve their quality and fitness for work. Transport aggregates from the source or storage site to the work in tight vehicles to prevent loss or segregation of materials after loading and measuring.

**6.9 STORAGE OF MATERIALS** - Contractor shall store all materials to preserve their quality and fitness for the work. Unless otherwise provided, any portion of the project site within the Project Contract Limit not required for public travel, may be used for storage purposes and for the Contractor's plant and equipment. Any additional space required shall be provided by the Contractor at its expense subject to the Engineer's acceptance. Contractor shall store materials on wooden platforms or other hard, clean surfaces and

covered to protect it from the weather and damage. Stored materials shall be located to allow prompt inspection.

**6.10 PROPERTY RIGHTS IN MATERIALS** - Nothing in the contract shall be construed to vest in the Contractor any right to any materials and equipment after such materials and equipment have been attached, affixed to, or placed in the work.

**6.11 ASSIGNMENT OF ANTITRUST CLAIMS FOR OVERCHARGES FOR GOODS PURCHASED** - Contractor (or Vendor) and the Department recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the Department. Therefore, Contractor hereby assigns to the Department any and all claims for such overcharges as to goods purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and any change order. In addition, Contractor warrants and represents that each of its first tier suppliers and subcontractors shall assign any and all such claims to the Department, subject to the aforementioned exception.

**ARTICLE 7 - Prosecution and Progress**  
(Including Legal Relations and Responsibility)

**7.1 PROSECUTION OF THE WORK**

7.1.1 After approval of the contract by the Department of Defense, a Notice to Proceed will be given to the Contractor as described in Section 3.10 NOTICE TO PROCEED. The Notice to Proceed will indicate the date the Contractor is expected to begin the construction and from which date contract time will be charged.

7.1.2 The Contractor shall begin work no later than ten (10) working days from the date in the Notice to Proceed and shall diligently prosecute the same to completion within the contract time allowed. The Contractor shall notify the Engineer at least three (3) working days before beginning work.

7.1.3 If any subsequent suspension and resumption of work occurs, the Contractor shall notify the Engineer at least twenty-four (24) hours before stopping or restarting actual field operations.

7.1.4 Working Prior to Notice to Proceed - The Contractor shall not begin work before the date in the Notice to Proceed. Should the Contractor begin work before receiving the Notice to Proceed, any work performed in advance of the specified date will be considered as having been done at the Contractor's risk and as a volunteer and subject to the following conditions:

7.1.4.1 Under no circumstances shall the Contractor commence work on site until it has notified the Engineer of its intentions and has been advised by the Engineer in writing that the project site is available to the Contractor. The project site will not be made available until the Contractor has complied with commencement requirements under Section 7.2 COMMENCEMENT REQUIREMENTS.

7.1.4.2 In the event the contract is not executed, the Contractor shall, at its own expense, do such work as is necessary to leave the site in a neat condition to the satisfaction of the Engineer. The Contractor shall not be reimbursed for any work performed.

7.1.4.3 All work done prior to the Notice to Proceed shall be performed in accordance with the contract documents, but will only be considered authorized work and be paid for as provided in the contract after the Notice to Proceed is issued.

7.1.5 For repairs and/or renovations of existing buildings, unless otherwise permitted by the Engineer, the Contractor shall not commence with the physical construction unless all or sufficient amount of materials are available for either continuous construction or completion of a specified portion of the work. When construction is started, the Contractor shall work expeditiously and pursue the work diligently until it is complete. If only a portion of the work is to be done in stages, the Contractor shall leave the area safe and usable for the user agency at the end of each stage.

**7.2 COMMENCEMENT REQUIREMENTS** - Prior to beginning work on site, the Contractor shall submit the following to the Engineer:

7.2.1 Identification of the Superintendent or authorized representative on the job site. Refer to Section 5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT.

7.2.2 Proposed Working Hours on the job. Refer to Section 7.5 NORMAL WORKING HOURS.

7.2.3 Permits and Licenses. Refer to Section 7.4 PERMITS AND LICENSES.

7.2.4 Schedule of Prices to be accepted for the agreed Monthly Payment Application. Unless the proposal provides unit price bids on all items in this project, the successful Bidder will be required, after the award of contract, to submit a schedule of prices for the various items of construction included in the contract. For projects involving more than a single building and / or facility, the breakdown cost shall reflect a separate schedule of prices for the various items of work for each building and/or facility. The sum of the prices submitted for the various items must equal the lump sum bid in the



Bidder's proposal. This schedule will be subject to acceptance by the Engineer who may reject same and require the bidder to submit another or several other schedules if in the Engineer's opinion the prices are unbalanced or not sufficiently detailed. This schedule of prices shall be used for the purpose of determining the value of monthly payments due the Contractor for work installed complete in place; and may be used as the basis for determining cost and credit of added or deleted items of work, respectively.

7.2.4.1 The Contractor shall estimate at the close of each month the percentage of work completed under each of the various construction items during such month and submit the Monthly Payment Application to the Engineer for review and approval. The Contractor shall be paid the approved percentage of the price established for each item less the retention provided in Section 8.4 PROGRESS PAYMENTS.

7.2.5 Proof of Insurance Coverage. Certificate of Insurance or other documentary evidence satisfactory to the Contracting Officer that the Contractor has in place all insurance coverage required by the contract. The Certificate of Insurance shall contain wording which identifies the Project number and Project title for which the certificate of insurance is issued. Refer to Section 7.3 INSURANCE REQUIREMENTS.

7.2.6 Until such time as the above items are processed and approved, the Contractor shall not be allowed to commence on any operations unless authorized by the Engineer.

### **7.3 INSURANCE REQUIREMENTS**

7.3.1 Obligation of Contractor - Contractor shall not commence any work until it obtains, at its own expense, all required herein insurance. Such insurance shall be provided by an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii. Coverage by a "Non-Admitted" carrier is permissible provided the carrier has a Best's Rating of "A-VII" or better.

7.3.2 All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the State.

7.3.3 Certificate(s) of Insurance acceptable to the State shall be filed with the Engineer prior to commencement of the work. Certificates shall identify if the insurance company is a "captive" insurance company or a "Non-Admitted" carrier to the State of Hawaii. The best's rating must be stated for the "Non-Admitted" carrier. Certificates shall contain a provision that coverage's being certified will not be cancelled or materially changes

without giving the Engineer at least thirty (30) days prior written notice. If the State is to be an Additional Insured on any of the required insurance, it shall be so noted on the certificate. Should any policy be canceled before final acceptance of the work by the State, and the Contractor fails to immediately procure replacement insurance as specified, the State, in addition to all other remedies it may have for such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

7.3.4 Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from its operations under this contract, including the Contractor's obligation to pay performance liquidated damages, nor shall it affect the Contractor's separate and independent duty to defend, indemnify and hold the State harmless pursuant to other provisions of this contract. In no instance will the State's exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.

7.3.5 All insurance described herein shall be primary and cover the insured for all work to be performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area and all change order work.

7.3.6 The Contractor shall, from time to time, furnish the Engineer, when requested, satisfactory proof of coverage of each type of insurance required covering the work. Failure to comply with the Engineer's request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor's default.

7.3.7 Types of Insurance - Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the contract, whether such operations be by the Contractor itself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

7.3.7.1 Worker's Compensation -The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.

7.3.7.2 General Liability - The Contractor shall obtain General Liability insurance with a limit of not less than

\$2,000,000 per occurrence and in the Aggregates. The General liability insurance shall include the State as an Additional Insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess policies. Refer to SPECIAL CONDITIONS for any additional requirements.

7.3.7.3 Auto Liability - The Contractor shall obtain Auto Liability Insurance covering all owned, non-owned and hired autos with a combined single Limit of not less than \$1,000,000 per occurrence. The required limit of insurance may be provided by a single policy or with a combination of primary and excess policies. Refer to SPECIAL CONDITIONS for any additional requirements.

#### 7.3.7.4 Property Insurance (Builders Risk)

- (1) New Building(s) - The Contractor shall obtain Property Insurance covering building(s) being constructed under this Contract. The limit shall be equal to the completed value of the building(s) and shall insure against all-loss excluding earthquakes and floods. The coverage shall be provided by a company authorized to write insurance in the State of Hawaii as an insurer.
- (2) Building Renovation and / or Installation Contract - The Contractor shall obtain Property Insurance with a limit equal to the completed value of the work or property being installed and shall insure against all-loss excluding earthquakes and floods. The coverage shall be provided by a company authorized to write insurance in the State of Hawaii as an insurer. Refer to SPECIAL CONDITIONS for any additional requirements.
- (3) The Contractor is not required to obtain property insurance for contracts limited to site development

## 7.4 PERMITS AND LICENSES

7.4.1 The State or its representative may process Federal (e.g. Corps of Engineers), State and County Permit applications. The Contractor shall pick up the pre-processed Permits at the appropriate governmental agency and pay the required fees. Other permits necessary for the proper execution of the work such as utility connection permits, elevator installation permits etc., unless processed by the State and paid for by the Contractor, shall be obtained and paid for by the Contractor.

7.4.2 Until such time as the above permits are approved, the Contractor shall not be allowed to commence any operations without written approval of the Engineer.

7.4.3 The Engineer reserves the right to waive application and processing of the building permit.

**7.5 NORMAL WORKING HOURS** - Prior to beginning operations, unless otherwise established by the State, the Contractor shall notify the Engineer in writing of the time in hours and minutes, A.M. and P.M. respectively, at which it desires to begin and end the day's work. If the Contractor desires to change the working hours, it shall request the Engineer's approval three (3) consecutive working days prior to the date of the change.

## 7.6 HOURS OF LABOR (Section 104-2 Hawaii Revised Statutes)

7.6.1 No laborer or mechanic employed on the job site of any public work of the Department or any political sub-division thereof shall be permitted or required to work on Saturday, Sunday or a legal holiday of the State or in excess of eight hours on any other day unless the laborer or mechanic receives overtime compensation for all hours worked on Saturday, Sunday and a legal holiday of the State or in excess of eight hours on any other day. For the purposes of determining overtime compensation under this Section 7.6, the basic hourly rate of any laborer or mechanic shall not be less than the basic hourly rate determined by the Department of Labor and Industrial Relations to be the prevailing basic hourly rate for corresponding classes of laborers and mechanics on projects of similar character in the Department.

7.6.2 Overtime compensation means, compensation based on one and one-half times the laborers or mechanics basic hourly rate of pay plus the cost to an employer of furnishing a laborer or mechanic with fringe benefits.

## 7.7 PREVAILING WAGES - (§ 104-2 HRS)

7.7.1 The Contractor shall at all times observe and comply with all provisions of Chapter 104, HRS, the significant requirements of which are emphasized in the Department of Labor and Industrial Relations Publication No. H104-3 entitled 'Requirements of Chapter 104, HRS Wages and Hours of Employees on Public Works Law'.

7.7.2 Wage Rate Schedule - The wage rate schedule is not physically enclosed in the bid documents. However, the wage rate schedule is incorporated herein by reference and made a part of the Bid and Contract Documents. Said wage rate schedule may be obtained from the Contracts Office, Department of Accounting and General Services, 1151 Punchbowl Street, Room 422, Honolulu, Hawaii or, via the FAX-ON-DEMAND system of the Department of Labor and Industrial Relations, phone number (808) 586-8695. When the bid documents are made available on respective neighbor islands, copies of the wage rate schedule may also be obtained from the office of the respective neighbor island DAGS District Office.

7.7.3 The Contractor or its subcontractor(s) shall pay all laborers and mechanics employed on the job site, unconditionally and not less often than once a week, and without deduction or rebate on any account except as allowed by law, the full amounts of their wages including overtime, accrued to not more than five (5) working days prior to the time of payment, at wage rates not less than those stated in the contract, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractor and such laborers and mechanics. The wages stated in the contract shall not be less than the minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the Director of Labor and Industrial Relations and published in wage rate schedules. Any increase in wage rates, as determined by the Director of Labor and Industrial Relations and issued in the wage rate schedule, shall be applicable during the performance of the contract, in accordance with section 104-2(a) and (b), Hawaii Revised Statutes. Notwithstanding the provisions of the original contract, if the Director of Labor and Industrial Relations determines that prevailing wages have increased during the performance of the contract, the rate of pay of laborers and mechanics shall be raised accordingly.

7.7.4 Posting Wage Rate Schedule - The rates of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the job site and a copy of such wages required to be posted shall be given to each laborer and mechanic employed under the contract by the Contractor at the time the person is employed thereunder, provided that where there is a collective bargaining agreement, the Contractor does not have to provide its employees the wage rate schedules. Any revisions to the schedule of wages issued by the Director of Labor and Industrial Relations during the course of the contract shall also be posted by the Contractor and a copy provided to each laborer and mechanic employed under the contract as required above.

7.7.5 The Engineer may withhold from the Contractor so much of the accrued payments as the Engineer may consider necessary to pay to laborers and mechanics employed by the Contractor or any subcontractor on the job site. The accrued payments withheld shall be the difference between the wages required by this contract and the wages actually received by such laborers or mechanics.

**7.8 FAILURE TO PAY REQUIRED WAGES (§ 104-4, HRS)** - If the Department finds that any laborer or mechanic employed on the job site by the Contractor or any subcontractor has been or is being paid wages at a rate less than the required rate by the contract, or has not received their full overtime compensation, the Department may, by written notice to the Contractor, terminate its right, or the right of any subcontractor, to proceed with the work or with the part of the work on

which the required wages or overtime compensation have not been paid and may complete such work or part by contract or otherwise, and the Contractor and its sureties shall be liable to the Department for any excess costs occasioned thereby.

**7.9 PAYROLLS AND PAYROLL RECORDS (§ 104-3 HRS)**

7.9.1 A certified copy of each weekly payroll shall be submitted to the Engineer within seven (7) calendar days after the end of each weekly payroll period. Failure to do so on a timely basis shall be cause for disqualification from bidding in accordance with the provisions of Section 2.12 DISQUALIFICATION OF BIDDERS. The Contractor shall be responsible for the timely submission of certified copies of payrolls of all subcontractors. The certification shall affirm that payrolls are correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the wage determination decision, any amendments thereto during the period of the contract, and that the classifications set forth for each laborer and mechanic conform with the work they performed.

7.9.2 Payroll records for all laborers and mechanics working at the site of the work shall be maintained by the General Contractor and its subcontractors, if any, during the course of the work and preserved for a period of four (4) years thereafter. Such records shall contain the name of each employee, their correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. Such records shall be made available for inspection at a place designated by the Engineer, the Director of Labor and any authorized persons who may also interview employees during working hours on the job site.

7.9.3 Note that the falsification of certifications noted in this Section 7.9 may subject the Contractor or subcontractor to penalties and debarment under the laws referenced in Section 7.14 LAWS TO BE OBSERVED and / or criminal prosecution.

**7.9A APPRENTICESHIP AGREEMENT CERTIFICATION (HRS §103-55.6)**

7.9A.1 For the duration of a contract awarded and executed utilizing the apprenticeship agreement preference, the Contractor shall certify for each month that work is being conducted on the project, that it continues to be a participant in the relevant registered apprenticeship program for each trade it employs.

7.9A.2 Monthly certification shall be made by completing the *Monthly Report of Contractor's Participation - Form 2* made available by the State Department of Labor and Industrial Relations, the original to be signed by the respective apprenticeship program sponsors authorized official, and submitted by the

Contractor to the Engineer with its monthly payment requests. The *Monthly Report of Contractor's Participation – Form 2* is available on the DLIR website at: <http://hawaii.gov/labor/wdd>.

7.9A.3 Should the Contractor fail or refuse to submit its *Monthly Report of Contractor's Participation – Form 2*, or at any time during the duration of the contract, cease to be a party to a registered apprenticeship agreement for any of the apprenticeable trades the Contractor employs, or will employ, the Contractor will be subject to the following sanctions:

7.9A.3.1 Withholding of the requested payment until all of the required *Monthly Report of Contractor's Participation – Form 2s* are properly completed and submitted.

7.9A.3.2 Temporary or permanent cessation of work on the project, without recourse to breach of contract claims by the Contractor; provided the Department shall be entitled to restitution for nonperformance or liquidated damages claims; or

7-9A.3.3 Proceedings to debar or suspend pursuant to HRS §103D-702.

7.9A.4 If events such as “acts of God”, acts of public enemy, acts of the State or any other governmental body in its sovereign or contractual capacity, fires, floods, epidemics, freight embargoes, unusually severe weather, or strikes or other labor disputes prevent the Contractor from submitting the *Monthly Report of Contractor's Participation – Form 2*, the Contractor shall not be penalized as provided herein, provided the Contractor completely and expeditiously complies with the certification process when the event is over.

## **7.10 OVERTIME AND NIGHT WORK**

7.10.1 Overtime work shall be considered as work performed in excess of eight (8) hours in any one day or work performed on Saturday, Sunday or legal holiday of the State. Overtime and night work are permissible when approved by the Engineer in writing, or as called for elsewhere within these GENERAL CONDITIONS.

7.10.2 Overtime Notification - Contractor shall notify the Engineer in writing at least two (2) working days prior to doing overtime and night work, to insure proper inspection will be available. The notification shall address the specific work to be done. A notification is not required when overtime work and night work are included as normal working hours in the contract and in the contractor's construction schedule.

7.10.3 In the event that work other than that contained in the above notification is performed and for which the Engineer determines State inspection services were

necessary but not available because of the lack of notification, the Contractor may be required to remove all such work and perform the work over again in the presence of State inspection personnel.

7.10.4 Any hours worked in excess of the normal eight (8) working hours per day or on Saturdays, Sundays or legal State holidays will not be considered a working day.

7.10.5 The State hereby reserves the right to cancel the overtime, night, Saturday, Sunday or legal State holiday work when it is found that work during these periods is detrimental to the public welfare or the user agency.

## **7.11 OVERTIME AND NIGHT PAYMENT FOR STATE INSPECTION SERVICE**

7.11.1 The Department is responsible for overtime or night time payments for Department's inspection services, including Department's Inspector, State staff personnel and the Department's Consultant(s) engaged on the project, when overtime and night work are included as normal working hours in the contract and in the contractor's construction schedule.

7.11.2 Whenever the Contractor's operations require the State's inspection and staff personnel to work overtime or at night, the Contractor shall reimburse the State for the cost of such services unless otherwise instructed in the Contract. The Engineer will notify the Contractor of the minimum number of required Department employees and other personnel engaged by the Department prior to the start of any such work. The costs chargeable to the Contractor shall include but not be limited to the following:

7.11.2.1 The cost of salaries which are determined by the State and includes overtime and night time differential for the Department's staff and inspection personnel. In addition to the cost of the salaries, the Contractor shall reimburse the State's share of contributions to the employee's retirement, medical plan, social security, vacation, sick leave, worker's compensation funds, per diem, and other applicable fringe benefits and overhead expenses.

7.11.2.2 The transportation cost incurred by the Department's staff and inspection personnel which are based on established rental rates or mileage allowance in use by the Department for the particular equipment or vehicle.

7.11.2.3 Fees and other costs billed the State by Consultants engaged on the project for overtime and/or night time work.

7.11.3 Payment for Inspection Services - The monies due the Department for staff and inspection work and use

of vehicles and equipment as determined in subsection 7.11.2 shall be deducted from the monies due or to become due the Contractor. In any and all events, the Contractor shall not pay the Department's employees directly.

## **7.12 LIMITATIONS OF OPERATIONS**

7.12.1 Contractor shall at all times conduct the work in such manner and in such sequence as will insure the least practicable interference with pedestrian and motor traffic passageways. The Contractor shall furnish convenient detours and provide and plan all other appropriate signs, flashers, personnel, warnings, barricades and other devices for handling pedestrian and motor traffic.

7.12.2 In the event that other contractors are also employed on the job site, the Contractor shall arrange its work and dispose of materials so as not to interfere with the operations of the other contractors engaged upon adjacent work. The Contractor shall join its work to that of others and existing buildings in a proper manner, and in accordance with the drawings and specifications, and perform its work in the proper sequence in relation to that of others, all as may be directed by the Engineer.

7.12.3 Each Contractor shall be responsible for any damage done by it to work performed by another contractor. Each Contractor shall so conduct its operations and maintain the work in such condition that adequate drainage shall be in effect at all times.

7.12.4 In the event that the Contractor fails to prosecute its work as provided in this Section 7.12 or disregards the directions of the Engineer, the Engineer may suspend the work until such time as the Contractor provides for the prosecution of the work with minimum interference to traffic and passageways or other contractors, adequate drainage, the repair of damage and complies with the direction of the Engineer. No payment will be made for the costs of such suspension.

## **7.13 ASSIGNMENT OR CHANGE OF NAME** §3-125-14 HAR

7.13.1 Assignment - The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of this contract or any part hereof or any right, title or interest herein or any monies due or to become due hereunder without the prior written consent of the Engineer.

7.13.2 The Contractor may assign money due or to become due it under the contract and such assignment will be recognized by the Department, if given proper notice thereof, to the extent permitted by law; but any assignment of monies shall be subject to all proper set-offs in favor of the State and to all deductions provided in the contract and particularly all monies withheld or unpaid, whether assigned or not, shall be to use by the

Department for the completion of the work in the event that the Contractors should be in default therein.

7.13.3 Recognition of a Successor in Interest; Assignment - When in the best interest of the State, a successor in interest may be recognized in an assignment agreement in which the transferor and the transferee and the State shall agree that:

7.13.3.1 The transferee assumes all of the transferor's obligations;

7.13.3.2 Transferor remains liable for all obligations under the contract but waives all rights under the contract against the State; and

7.13.3.3 The transferor shall continue to furnish, and the transferee shall also furnish, all required bonds.

7.13.4 Change of Name - When a Contractor requests to change the name in which it holds a contract with the State, the Engineer shall, upon receipt of a document indicating such change of name (for example: an amendment to the articles of incorporation of the corporation), enter into an agreement with the requesting Contractor to effect such a change of name. The agreement changing the name shall specifically indicate that no other terms and conditions of the contract are thereby changed.

7.13.5 All change of name or novation agreements effected hereunder other than by the Engineer shall be reported to the Engineer within thirty (30) days of the date that the agreement becomes effective.

7.13.6 Notwithstanding the provisions of paragraphs 7.13.3.1 through 7.13.3.3 above, when a Contractor holds contracts with more than one purchasing agency of the State, the novation or change of name agreements herein authorized shall be processed only through the Department of Defense, State of Hawaii.

## **7.14 LAWS TO BE OBSERVED**

7.14.1 The Contractor at all times shall observe and comply with all Federal, State and local laws or ordinances, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work. The Contractor shall also comply with all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the work. Any reference to such laws, ordinances, rules and regulations shall include any amendments thereto before and after the date of this contract.

7.14.2 The Contractor shall defend, protect, hold harmless and indemnify the State and its Departments and Agencies and all their officers, representatives, employees

or agents against any claim or liability arising from or based on the violation of any such laws, ordinances, rules and regulations, orders or decrees, whether such violation is committed by the Contractor or its Subcontractor(s) or any employee of either or both. If any discrepancy or inconsistency is discovered in the contract for the work in relation to any such laws, ordinances, rules and regulations, orders or decrees, the Contractor shall forthwith report the same to the Engineer in writing.

7.14.3 While the Contractor must comply with all applicable laws, attention is directed to: Wage and Hours of Employees on Public Works, Chapter 104, Hawaii Revised Statutes (HRS); Hawaii Public Procurement Code, Authority to debar or suspend, Section 103D-702, HRS; Hawaii Employment Relations Act, Chapter 377, HRS; Hawaii Employment Security Law, Chapter 383, HRS; Worker's Compensation Law, Chapter 386, HRS; Wage and Hour Law, Chapter 387, HRS; Occupational Safety and Health, Chapter 396, HRS; and Authority to Debar or Suspend, Chapter 126, subchapter 2, Hawaii Administrative Rules (HAR).

**7.15 PATENTED DEVICES, MATERIALS AND PROCESSES** - If the Contractor desires to use any design, device, material, or process covered by letters of patent or copyright, the right for such use shall be procured by the Contractor from the patentee or owner. The Contractor shall defend, protect, indemnify and hold harmless the State and its Departments and Agencies, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright in connection with the work to be performed under the contract, shall defend, protect, indemnify and hold harmless the State and its Departments and Agencies for any costs, expenses and damages which it may be obligated to pay by reason of any such infringement at any time during the prosecution or after the completion of the work. This section shall not apply to any design, device, material or process covered by letters of patent or copyright, which the Contractor is required to use by the drawings or specifications.

**7.16 SANITARY, HEALTH AND SAFETY PROVISIONS**

7.16.1 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the requirements of the State and local Boards of Health, or other bodies or tribunals having jurisdiction. Unless otherwise stated in the drawings or specifications, the Contractor shall install toilet facilities conveniently located at the job site and maintain same in a neat and sanitary condition for the use of the employees on the job site for the duration of the contract. The toilet facilities shall conform to the requirements of the State Department of Health. The cost of installing, maintaining and

removing the toilet facilities shall be considered incidental to and paid for under various contract pay items for work or under the lump sum bids as the case may be, and no additional compensation will be made therefore. These requirements shall not modify or abrogate in any way the requirements or regulations of the State Department of Health.

7.16.2 Attention is directed to Federal, State and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to their health or safety.

**7.17 PROTECTION OF PERSONS AND PROPERTY**

7.17.1 Safety Precautions and Programs - The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

7.17.1.1 All persons on the Work site or who may be affected by the Work;

7.17.1.2 All 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 and its subcontractors; and

7.17.1.3 Other property at the site or adjacent thereto, including trees, shrubs lawns walks pavement, roadways structures, and utilities not designated for removal, relocation or replacement in the course of construction.

7.17.2 Contractor shall give notices and comply with applicable laws, ordinances, regulations, rules, and lawful orders of any public body having jurisdiction for the safety of persons or property or their protection from damage, injury or loss; and the Contractor shall erect and maintain reasonable safeguards for safety and protection, including posting danger signs, or other warnings against hazards.

7.17.3 The Contractor shall notify Owners of adjacent properties and of underground (or overhead) utilities when performing work, which may affect the Owners; and shall cooperate with the Owners in the protection, removal and replacement of their property.

7.17.4 All damage, injury or loss to any property referred to in paragraphs 7.17.1.2 and 7.17.1.3 caused by the fault or negligence or damage or loss attributable to acts or omissions directly or indirectly in whole or part by the Contractor a subcontractor or any one directly or

indirectly employed by them, or by anyone for whose acts they might be liable, shall be remedied promptly by the Contractor.

7.17.5 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the protection of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor

7.17.6 The Contractor shall not load or permit any part of the construction to be loaded so as to endanger its safety. The Contractor shall not injure or destroy trees or shrubs nor remove or cut them without permission of the Engineer. Contractor shall protect all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

7.17.7 In the event the Contractor encounters on the site, material reasonably believed to be asbestos or other hazard material that has not been rendered harmless, the Contractor shall stop work in the area and notify the Engineer promptly. The work in the affected area shall be resumed in the absence of hazard materials or when the hazard has been rendered harmless.

7.17.8 Emergencies - In an emergency affecting the safety and protection of persons or the Work or property at the site or adjacent thereto, Contractor without special instructions or authorization from the Engineer, shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Contractor shall give the Engineer prompt written notice of the emergency and actions taken. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined under the provisions of Section 7.25 DISPUTES AND CLAIMS.

## **7.18 ARCHAEOLOGICAL SITES**

7.18.1 Should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells be encountered during construction, work shall cease in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall immediately notify the Engineer and contact the State Historic Preservation Division which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.

7.18.2 When required, the Contractor shall provide and install any temporary fencing as shown on the drawings to protect archaeological sites within the project. The fencing shall be installed prior to any construction activity and shall be maintained by the Contractor for the duration of the project. Fence installation and maintenance shall be to the satisfaction of the Engineer. The Contractor

shall remove the fencing upon completion of construction, or as directed by the Engineer.

7.18.3 No work shall be done within the temporary fencing area. If any construction work is done within the temporary fencing, the Contractor shall notify the Engineer immediately; and if the Contractor entered the archaeological site area without permission, it shall stop work in this area immediately. The Engineer shall notify the archaeologist to assess any damage to the area. The Contractor shall allow the archaeologist sufficient time to perform the field investigation.

7.18.4 Any site requiring data recovery within the project shall not be disturbed until data recovery is completed.

## **7.19 RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY**

7.19.1 The Contractor shall indemnify the State and the Department against all loss of or damage to the State's or the Department's existing property and facilities arising out of any act or omission committed in the performance of the work by the Contractor, any subcontractor or their employees and agents. Contractor shall defend, hold harmless and indemnify the Department and the State, their employees, officers and agents against all losses, claims, suits, liability and expense, including but not limited to attorneys' fees, arising out of injury to or death of persons (including employees of the State and the Department, the Contractor or any subcontractor) or damage to property resulting from or in connection with performance of the work and not caused solely by the negligence of the State or the Department, their agents, officers and employees. The State or the Department may participate in the defense of any claim or suit without relieving the Contractor of any obligation hereunder. The purchase of liability insurance shall not relieve the Contractor of the obligations described herein.

7.19.2 The Contractor agrees that it will not attempt to hold the State and its Departments and Agencies and their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these GENERAL CONDITIONS or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.

7.19.3 The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the

Contractor under this contract considered necessary by the Engineer to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.

7.19.4 The Contractor shall defend, indemnify and hold harmless the State and its Departments and Agencies and their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising out of or recovered under the Workers' Compensation Laws or violation of any other law, by-law, ordinance, order or decree.

## **7.20 CHARACTER OF WORKERS OR EQUIPMENT**

7.20.1 The Contractor shall at all times provide adequate supervision and sufficient labor and equipment for prosecuting the work to full completion in the manner and within the time required by the contract.

7.20.2 Character and Proficiency of Workers - All workers shall possess the proper license and / or certification, job classification, skill and experience necessary to properly perform the work assigned to them.

All workmen engaged in special work or skilled work such as bituminous courses or mixtures, concrete pavement or structures, electrical installation, plumbing installation, or in any trade shall have sufficient experience in such work and in the operation of the equipment required to properly and satisfactorily perform all work. All workers shall make due and proper effort to execute the work in the manner prescribed in these GENERAL CONDITIONS, otherwise, the Engineer may take action as prescribed herein.

7.20.2.1 Any worker employed on the project by the Contractor or by any subcontractor who, in the opinion of the Engineer, is not careful and competent, does not perform its work in a proper and skillful manner or is disrespectful, intemperate, disorderly or neglects or refuses to comply with directions given, or is otherwise objectionable shall at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such worker and shall not be employed again in any portion of the work without the written consent of the Engineer. Should the Contractor or subcontractor continue to employ, or again employ such person or persons on the project, the Engineer may withhold all payments which are or may become due, or the Engineer may suspend the work until the Engineer's orders are followed, or both.

7.20.3 Insufficient Workers - A sufficient number of workers shall be present to ensure the work is accomplished at an acceptable rate. In addition, the proper ratio of apprentice to journey worker shall be maintained to ensure the work is properly supervised and performed.

In the event that the Engineer finds insufficient workers are present to accomplish the work at an acceptable rate of progress or if a adequate number of journey workers are not present and no corrective action is taken by the Contractor after being informed in writing, the Engineer may terminate the contract as provided for under Section 7.27 TERMINATION OF CONTRACT FOR CAUSE.

7.20.4 Equipment Requirements - All equipment furnished by the Contractor and used on the work shall be of such size and of such mechanical condition that the work can be performed in an acceptable manner at a satisfactory rate of progress and the quality of work produced will be satisfactory.

7.20.4.1 Equipment used on any portion of the project shall be such that no injury to the work, persons at or near the site, adjacent property or other objects will result from its use.

7.20.4.2 If the Contractor fails to provide adequate equipment for the work, the contract may be terminated as provided under Section 7.27 TERMINATION OF CONTRACT FOR CAUSE.

7.20.4.3 In the event that the Contractor furnishes and operates equipment on a force-account basis, it shall be operated to obtain maximum production under the prevailing conditions.

## **7.21 CONTRACT TIME**

7.21.1 Time is of the essence for this contract.

7.21.2 Calculation of Contract Time - When the contract time is on a working day basis, the total contract time allowed for the performance of the work shall be the number of working days shown in the contract plus any additional working days authorized in writing as provided hereinafter. Refer to Article 1 DEFINITIONS for the definition of Working Day. The count of elapsed working days to be charged against contract time shall begin from the date of Notice to Proceed and shall continue consecutively to the date of Project Acceptance determined by the Engineer. When the contract completion time is a fixed calendar date, it shall be the date on which all work on the project shall be completed. Maintenance periods are not included within the contract time unless specifically noted in the Contract Documents.

7.21.3 Modifications of Contract Time  
§3-125-4 HAR

7.21.3.1 Extensions - For increases in the scope for work caused by alterations and additional work made under Section 4.2 CHANGES, the Contractor will be granted a time extension only if the changes increase the time of performance for the Contract. If the Contractor believes that an extension of time is justified and is not adequately



provided for in a Field Order, it must request the additional time sought in writing when the detailed cost breakdown required by Section 4.2 CHANGES, is submitted. The Contractor must show how the time of performance for the critical path will be affected and must also support the time extension request with schedules and statements from its subcontractors, suppliers, and/or manufacturers. Compensation for any altered or additional work will be paid as provided in Section 4.2 CHANGES.

7.21.3.2 The Department may direct changes to the work at any time until the work is finally accepted. The issuance of a Field Order at any time may alter or modify the contract duration only by the days specified therein; or if not specified therein, for the days the critical path must be extended for the change. Additional time to perform the extra work will be added to the time allowed in the contract without regard to the date the change directive was issued, even if the contract completion date has passed. A change requiring time will not constitute a waiver of pre-existing Contractor delay.

7.21.4 Delay for Permits - For delays beyond the control of the Contractor in obtaining necessary permits, one day extension for each day delay may be granted by the Engineer, provided the Contractor notifies the Engineer that the permits are not available, as soon as the delay occurs. Time extensions shall be the exclusive relief granted on account of such delays. No additional compensation will be paid for these time extensions.

7.21.5 Delays Beyond Contractor's Control §3-125-18(4) - For delays affecting the critical path caused by acts of God, or the public enemy, fire, unusually severe weather, earthquakes, floods, epidemics, quarantine restrictions, labor disputes, freight embargoes and other reasons beyond the Contractor's control, the Contractor may be granted an extension of time provided that:

7.21.5.1 The Contractor notifies the Engineer in writing within five (5) work days after the occurrence of the circumstances described above and states the possible effects on the completion date of the contract.

7.21.5.2 No time extension will be granted for weather conditions other than unusually severe weather occurrences, and floods.

7.21.5.3 The Contractor, if requested, submits to the Engineer within ten (10) work days after the request, a written statement describing the delay to the project. The extent of delay must be substantiated as follows:

(a) State specifically the reason or reasons for the delay and fully explain in a detailed chronology the effect of this delay to the work and/or the completion date.

(b) Submit copies of purchase order, delivery tag, and any other pertinent documentation to support the time extension request.

(c) Cite the period of delay and the time extension requested.

(d) A statement either that the above circumstances have been cleared and normal working conditions restored as of a certain day or that the above circumstances will continue to prevent completion of the project.

7.21.5.4 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor for such delays.

7.21.6 Delays in Delivery of Materials - For delays in delivery of materials and / or equipment which occur as a result of unforeseeable causes beyond the control and without fault or negligence of both the Contractor, its subcontractor(s) or supplier(s), the Contractor may be granted an extension of time provided that it complies with the following procedures.

7.21.6.1 The Contractor must notify the Engineer in writing within five (5) consecutive working days after it first has any knowledge of delays or anticipated delays and state the effects such delays may have on the completion date of the contract.

7.21.6.2 The Contractor, if requested, must submit to the Engineer within ten (10) working days after a firm delivery date for the material and equipment is established, a written statement as to the delay to the progress of the project. The delay must be substantiated as follows:

(a) State specifically the reason or reasons for the delay. Explain in a detailed chronology the effect of this delay to the other work and / or the completion date.

(b) Submit copies of purchase order(s), factory invoice(s), bill(s) of lading, shipping manifest(s), delivery tag(s) and any other pertinent correspondence to support the time extension request.

(c) Cite the start and end date of the delay and the days requested therefore. The delay shall not exceed the difference between the originally scheduled delivery date versus the actual delivery date.

7.21.6.3 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor on account of such delay.

7.21.7 Delays For Suspension of Work - Delay during periods of suspension of the work by the Engineer shall be computed as follows:

7.21.7.1 When the performance of the work is totally suspended for one or more days (calendar or working days, as appropriate) by order of the Engineer in accordance with paragraphs 7.24.1.1, 7.24.1.2, 7.24.1.4 or 7.24.1.6 the number of days from the effective date of the Engineer's order to suspend operations to the effective date of the Engineer's order to resume operations shall not be counted as contract time and the contract completion date will be adjusted. Should the Contractor claim for additional days in excess of the suspension period, Contractor shall provide evidence justifying the additional time. During periods of partial suspensions of the work, the Contractor will be granted a time extension only if the partial suspension affects the critical path. If the Contractor believes that an extension of time is justified for a partial suspension of work, it must request the extension in writing at least five (5) working days before the partial suspension will affect the critical operation(s) in progress. The Contractor must show how the critical path was increased based on the status of the work and must also support its claim, if requested, with statements from its subcontractors. A suspension of work will not constitute a waiver of pre-existing Contractor delay.

7.21.8 Contractor Caused Delays - No time extension will be considered for the following:

7.21.8.1 Delays in performing the work caused by the Contractor, subcontractor and / or supplier.

7.21.8.2 Delays in arrival of materials and equipment caused by the Contractor, subcontractor and / or supplier in ordering, fabricating, delivery, etc.

7.21.8.3 Delays requested for changes which the Engineer determines unjustifiable due to the lack of supporting evidence or because the change is not on the critical path.

7.21.8.4 Delays caused by the failure of the Contractor to submit for review and acceptance by the Engineer, on a timely basis, shop drawings, descriptive sheets, material samples, color samples, etc. except as covered in subsection 7.21.5 and 7.21.6.

7.21.8.5 Failure to follow the procedure within the time allowed to qualify for a time extension.

7.21.8.6 Days the Contractor is unable to work due to normal rainfall or other normal bad weather day conditions.

7.21.9 Reduction in Time - If the Department deletes any portion of the work, an appropriate reduction of contract time may be made in accordance with Section 4.2 CHANGES.

## 7.22 CONSTRUCTION SCHEDULE

7.22.1 The Contractor shall submit its detailed construction schedule to the Engineer prior to the start of the work. The purpose of the schedule is to allow the Engineer to monitor the Contractor's progress on the work. The schedule shall account for normal inclement weather, unusual soil or other conditions that may influence the progress of the work, schedules and coordination required by any utility, off or on site fabrications, and all other pertinent factors that relate to progress.

7.22.2 Submittal of and the Engineer's receipt of the construction schedule shall not imply the Department's approval of the schedule's breakdown, its individual elements, and any critical path that may be shown. Any acceptance or approval of the schedule 1) shall be for general format only and not for sequences or durations thereon, and 2) shall not be deemed an agreement by the Department that the construction means, methods and resources shown on the schedule will result in work that conforms to the contract requirements. The Contractor has the risk of all elements (whether or not shown) of the schedule and its execution. Additional compensation shall not be due the Contractor in the event that deviations from the Contractor's schedule, caused by any design revisions required to resolve site conditions or State, County, or utility requirements, affect the efficiency of its operations.

7.22.3 In the event the Contractor submits and the Department receives an accelerated schedule (shorter than the contract time), such will not constitute an agreement to modify the contract time or completion date, nor will the receipt, acceptance or approval of such a schedule incur any obligation by the Department.

7.22.4 Caution - The Department will not be responsible if the Contractor does not meet its accelerated schedule.

7.22.5 The requirements of this Section 7.22 CONSTRUCTION SCHEDULE may be waived by the Engineer.

**7.23 STATEMENT OF WORKING DAYS** - For all contracts on a working day basis, the Contractor will submit a statement of the number of working days for each month together with the Monthly Payment Application. The Monthly Payment Application will not be processed without the statement of working days.

## **7.24 SUSPENSION OF WORK §3-125-7 HAR**

7.24.1 Procedure to be followed - The Engineer may, by written order, suspend the performance of the Work up to thirty (30) days and the Engineer, for an unlimited number of days, either in whole or in part for any cause, including but not limited to:

7.24.1.1 Weather or excess bad weather days, considered unsuitable by the Engineer for prosecution of the work; or

7.24.1.2 Soil Conditions considered unsuitable by the Engineer for prosecution of the work; or

7.24.1.3 Failure of the Contractor to:

(1) Correct conditions unsafe for the general public or for the workers;

(2) Carry out orders given by the Engineer;

(3) Perform the work in strict compliance with the provisions of the contract; or

(4) Provide a qualified Superintendent on the jobsite as described under Section 5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT.

7.24.1.4 When any redesign is deemed necessary by the Engineer; or

7.24.1.5 Disturbance due to noise, odors or dust arising from the construction even if such disturbance does not violate the section on Environmental Protection contained in the specifications; or

7.24.1.6 The convenience of the State.

7.24.2 Partial, Total Suspension of Work - Suspension of work on some but not all items of work shall be considered a partial suspension. Suspension of work on the entire work at the job site shall be considered total suspension. The period of suspension shall be computed as set forth in subsection 7.21.7 -Delays for Suspension of Work.

7.24.3 Payment §3-125-7 HAR

7.24.3.1 In the event that the Contractor is ordered by the Engineer in writing as provided herein to suspend all work under the contract in accordance with paragraphs 7.24.1.4 or 7.24.1.6, the Contractor may be reimbursed for actual direct costs incurred on work at the jobsite, as authorized in writing by the Engineer, including costs expended for the protection of the work. Payment for equipment which must standby during such suspension of work shall be made as described in clause 8.3.4.5. (e). No payment will be made for profit on any suspension costs. An allowance of five percent (5%) will be paid on any reimbursed actual costs for indirect categories of delay costs, including extended branch and home-office overhead and delay impact costs.

7.24.3.2 However, no adjustment to the contract amount or time shall be made under this Section 7.24 for any suspension, delay, or interruption:

(a) To the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor; or

(b) For which an adjustment is provided for or excluded under any other provision of this Contract.

7.24.3.3 Any adjustment in contract price made pursuant to this subsection shall be determined in accordance with this Section 7.24 and Section 4.2 CHANGES.

7.24.3.4 Claims for such compensation shall be filed with the Engineer within ten (10) calendar days after the date of the order to resume work or such claims will be waived by the Contractor. Together with the claim, the Contractor shall submit substantiating documents supporting the entire amount shown on the claim. The Engineer may make such investigations as are deemed necessary and shall be the sole judge of the claim and the Engineer's decision shall be final.

7.24.4 Claims Not Allowed - No claim under this Section 7.24 shall be allowed:

7.24.4.1 For any direct costs incurred more than twenty (20) days before the Contractor shall have notified the Engineer in writing of any suspension that the Contractor considered compensable. This requirement shall not apply as to a claim resulting from a suspension order under paragraphs 7.24.1.4 or 7.24.1.6, and

7.24.4.2 Unless the claim is asserted in writing within ten (10) calendar days after the termination of such suspension, delay, or interruption, but in no case not later than the date of final payment under the contract.

7.24.4.3 No provision of this Section 7.24 shall be construed as entitling the Contractor to compensation for delays due to failure of surety, for suspensions made at the request of the Contractor, for any delay required under the Contract, for partial suspension of work or for suspensions made by the Engineer under the provisions of paragraphs 7.24.1.1, 7.24.1.2, 7.24.1.3 and 7.24.1.5.

## 7.25 DISPUTES AND CLAIMS §3-126-31 HAR

7.25.1 Required Notification - As a condition precedent for any claim, the Contractor must give notice in writing to the Engineer in the manner and within the time periods stated in Section 4.2 CHANGES for claims for extra compensation, damages, or an extension of time due for one or more of the following reasons:

7.25.1.1 Requirements not clearly covered in the contract, or not ordered by the Engineer as an extra;

7.25.1.2 Failure by the State and Contractor to agree to an Oral Order or an adjustment in price or contract time for a Field Order or a Change Order issued by the State;

7.25.1.3 An action or omission by the Engineer requiring performance changes beyond the scope of the contract;

7.25.1.4 Failure of the State to issue a Field Order for controversies within the scope of Section 4.2 CHANGES.

7.25.1.5 For any other type of claim, the Contractor shall give notice within the time periods set forth in contract provisions pertaining to that event. If no specific contract provisions pertain to the claim, then the written notice of claim must be submitted within fifteen (15) days of the event giving rise to the claim.

7.25.2 Continued Performance of Work - The Contractor shall at all times continue with performance of the contract in full compliance with the directions of the Engineer. Continued performance by the Contractor shall not be deemed a waiver of any claim for additional compensation, damages, or an extension of time for completion, provided that the written notice of claim is submitted in accordance with subsection 7.25.1

7.25.3 The requirement for timely written notice shall be a condition precedent to the assertion of a claim.

7.25.4 Requirements for Notice of Claim -The notice of claim shall clearly state the Contractor's intention to make claim and the reasons why the Contractor believes that additional compensation, changes or an extension of time may be remedies to which it is entitled. At a minimum, it shall provide the following:

7.25.4.1 Date of the protested order, decision or action;

7.25.4.2 The nature and circumstances which caused the claim;

7.25.4.3 The contract provision that support the claim;

7.25.4.4 The estimated dollar cost, if any, of the protested work and how that estimate was determined; and

7.25.4.5 An analysis of the progress schedule showing the schedule change or disruption if the Contractor is asserting a schedule change or disruption.

7.25.5 If the protest or claim is continuing, the information required in subsection 7.25.4 above shall be supplemented as requested by the Engineer.

7.25.6 Final Statement for Claim - The Contractor shall provide a final written statement of the actual adjustment in contract price and/or contract time requested for each notice of claim. Such statement shall clearly set forth that it is the final statement for that notice of claim. All such final statements shall be submitted within thirty (30) days after completion of the work that is the subject of the claim, but in no event no later than thirty (30) days after

the Project Acceptance Date or the date of termination of the Contractor, whichever comes first.

7.25.7 All claims of any nature are barred if asserted after final payment under this contract has been made, except as provided under Section 8.9 CLAIMS ARISING OUT OF PAYMENT FOR REQUIRED WORK.

7.25.8 Contractor may protest the assessment or determination by the Engineer of amounts due the State from the Contractor by providing a written notice to the Engineer within thirty (30) days of the date of the Engineer's written assessment or determination. Said notice shall comply with all requirements of subsections 7.25.4 and 7.25.6 above. The requirement of such notice cannot be waived and it is a condition precedent to any claim by the Contractor. Failure to comply with these notice provisions constitutes a waiver of any claim.

7.25.9 In addition to the requirements of subsections 7.25.4, 7.25.6, and 7.25.8, all final written statements of claim shall be certified. This certification requirement applies to the Contractor without exception, including, but not limited to, situations involving "pass through" claims of subcontractors or suppliers. The certification must be executed by a person duly authorized to bind the Contractor with respect to the claim. The certification shall state as follows:

7.25.9.1 "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the State is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

7.25.10 Decision on Claim / Appeal - The Contracting Officer shall decide all controversies between the State and the contractor which arise under, or are by virtue of, this contract and which are not resolved by mutual agreement. The decision of the Contracting Officer on the claim shall be final and conclusive, unless fraudulent or unless the contractor delivers to the Adjutant General a written appeal of the Contracting Officer's decision no later than 30 days after the date of the Contracting Officers decision. The Adjutant General's decision shall be final and conclusive, unless fraudulent or unless the contractor brings an action seeking judicial review of the Adjutant General's decision in an appropriate circuit court of this State within six months from the date of the Adjutant General's decision.

7.25.10.1 If the contractor delivers a written request for a final decision concerning the controversy, the Adjutant General shall issue a final decision within 90 days after receipt of such a request; provided that if the Adjutant General does not issue a written decision within 90 days or within such longer period as may be agreed upon by

the parties, then the contractor may proceed as if an adverse decision had been received. Both parties to this contract agree that the period of up to 30 days to appeal the Contracting Officer's decision to the Adjutant General shall not be included in the 90 day period to issue a final decision.

7.25.11 Payment and Interest - The amount determined payable pursuant to the decision, less any portion already paid, normally should be paid without awaiting Contractor action concerning appeal. Such payments shall be without prejudice to the rights of either party. Interest on amounts ultimately determined to be due to a Contractor shall be payable at the Statutory rate applicable to judgments against the State under Chapter 662, HRS from the date of receipt of a properly certified final written statement of actual adjustment required until the date of decision; except, however, that if an action is initiated in circuit court, interest under this Section 7.25 shall only be calculated until the time such action is initiated. Interest on amounts due the State from the Contractor shall be payable at the same rate from the date of issuance of the Engineer's notice to the Contractor. Where such payments are required to be returned by a subsequent decision, interest on such payments shall be paid at the statutory rate from the date of payment.

7.25.12 Contractor shall comply with any decision of the Engineer and proceed diligently with performance of this contract pending final resolution by a circuit court of this State of any controversy arising under, or by virtue of, this contract, except where there has been a material breach of contract by the State; provided that in any event the Contractor shall proceed diligently with the performance of the contract where the Engineer has made a written determination that continuation of work under the contract is essential to the public health and safety.

## **7.26 FAILURE TO COMPLETE THE WORK ON TIME**

7.26.1 Completion of the work within the required time is important because delay in the prosecution of the work will inconvenience the public and interfere with the State's business. In addition, the State will be damaged by the inability to obtain full use of the completed work and by increased engineering, inspection, superintendence, and administrative services in connection with the work. Furthermore, delay may detrimentally impact the financing, planning, or completion of other State projects because of the need to devote State resources to the project after the required completion date. The monetary amount of such public inconvenience, interference with State business, and damages, is difficult, if not impossible, to accurately determine and precisely prove. Therefore, it is hereby agreed that the amount of such damages shall be the appropriate sum of liquidated damages as set forth below.

7.26.1.1 When the Contractor fails to complete the Work or any portion of the Work within the time or times fixed in the contract or any extension thereof, it is agreed the Contractor shall pay liquidated damages to the Department based upon the amount stated in the Offer form.

7.26.1.2 If the Contractor fails to correct Punch list deficiencies as required by Section 7.32 PROJECT ACCEPTANCE DATE, the State will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department based upon the amount stated in the Offer Form. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof until the date the Punchlist items are corrected and accepted by the Engineer.

7.26.1.3 If the Contractor fails to submit final documents as required by Section 7.33 FINAL SETTLEMENT OF THE CONTRACT, the State will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department based upon the amount stated in the Offer Form. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof, until the date the final documents are received by the Engineer.

7.26.1.4 The Engineer shall assess the total amount of liquidated damages in accordance with the amount stated in the Offer Form and provide written notice of such assessment to the Contractor.

7.26.2 Acceptance of Liquidated Damages -The assessment of liquidated damages by the Engineer shall be accepted by the parties hereto as final, unless the Contractor delivers a written appeal of the Engineer's decision in accordance with subsection 7.25.10 requirements. Any allowance of time or remission of charges or liquidated damages shall in no other manner affect the rights or obligations of the parties under this contract nor be construed to prevent action under Section 7.27 TERMINATION OF CONTRACT FOR CAUSE. If the Department terminates the Contractor's right to proceed, the resulting damage will include such liquidated damages for such time as may be required for final completion of the work after the required contract completion date.

7.26.3 Payments for Liquidated Damages -Liquidated damages shall be deducted from monies due or that may become due to the Contractor under the contract or from other monies that may be due or become due to the Contractor from the State.

## **7.27 TERMINATION OF CONTRACT FOR CAUSE §3-125-18 HAR**

7.27.1 Default - If the Contractor refuses or fails to perform the work, or any separable part thereof, with such diligence as will assure its completion within the time specified in this contract, or any extension thereof, fails to complete the work within such time, or commits any other material breach of this contract, and further fails within seven (7) days after receipt of written notice from the Engineer to commence and continue correction of the refusal or failure with diligence and promptness, the Engineer may, by written notice to the Contractor, declare the Contractor in breach and terminate the Contractor's right to proceed with the work or the part of the work as to which there has been delay or other breach of contract.

In such event, the Department may take over the work and perform the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the work, the materials, appliances, and plant as may be on the site of the work and necessary therefore.

Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the Department resulting from the Contractor's refusal or failure to complete the work within the specified time.

7.27.2 Additional Rights and Remedies - The rights and remedies of the Department provided in this contract are in addition to any other rights and remedies provided by law.

7.27.3 Costs and Charges

7.27.3.1 All costs and charges incurred by the Department, together with the cost of completing the work under contract, will be deducted from any monies due or which would or might have become due to the Contractor had it been allowed to complete the work under the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay the Department the amount of the excess.

7.27.3.2 In case of termination, the Engineer shall limit any payment to the Contractor to the part of the contract satisfactorily completed at the time of termination. Payment will not be made until the work has satisfactorily been completed and the tax clearance required by Section 8.8 FINAL PAYMENT is submitted by the Contractor. Termination shall not relieve the Contractor or Surety from liability for performance liquidated damages.

7.27.4 Erroneous Termination for Cause - If, after notice of termination of the Contractor's right to proceed under this Section 7.27, it is determined for any reason that good cause did not exist to allow the Department to terminate as provided herein, the rights and obligations of the parties shall be the same as, and the relief afforded the Contractor shall be limited to, the provisions contained in Section 7.28 TERMINATION FOR CONVENIENCE.

## 7.28 TERMINATION FOR CONVENIENCE §3-125-22 HAR

7.28.1 Termination - The Engineer may, when the interests of the State so require, terminate this contract in whole or in part, for the convenience of the State. The Engineer shall give written notice of the termination to the Contractor specifying the part of the contract terminated and when termination becomes effective.

7.28.2 Contractor's Obligations - The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor will stop work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work subject to the State's approval. The Engineer may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the State. The Contractor must still complete the work not terminated by the notice of termination.

7.28.3 Right to Construction and Goods - The Engineer may require the Contractor to transfer title and delivery to the State in the manner and to the extent directed by the Engineer, the following:

7.28.3.1 Any completed work; and

7.28.3.2 Any partially completed construction, goods, materials, parts, tools, dies, jigs, fixtures, drawings, information, and contract rights (hereinafter called "construction material") that the Contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.

7.28.3.3 The Contractor shall protect and preserve all property in the possession of the Contractor in which the State has an interest. If the Engineer does not elect to retain any such property, the Contractor shall use its best efforts to sell such property and construction material for the Department's account in accordance with the standards of section 490:2-706, HRS.

7.28.4 Compensation

7.28.4.1 Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data, submitted to the extent required by subchapter 15, chapter 3-122, HAR. If the Contractor fails to file a termination claim within one year from the effective date of termination, the Engineer may pay the Contractor, if at all, an amount set in accordance with paragraph 7.28.4.3.

7.28.4.2 The Engineer and the Contractor may agree to a settlement provided the Contractor has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of construction, supplies, and construction materials under paragraph 7.28.3.3 of this Section, and the contract price of the work not terminated.

7.28.4.3 Absent complete agreement, the Engineer shall pay the Contractor the following amounts, less any payments previously made under the contract.

(a) The cost of all contract work performed prior to the effective date of the notice of termination work plus a five percent (5%) markup on the actual direct costs, including amounts paid to subcontractor, less amounts previously paid or to be paid for completed portions of such work; provided, however, that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no markup shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss. No anticipated profit or consequential damage will be due or paid.

(b) Subcontractors shall be paid a markup of ten percent (10%) on their direct job costs incurred to the date of termination. No anticipated profit or consequential damage will be due or paid to any subcontractor. These costs must not include payments made to the Contractor for subcontract work during the contract period.

(c) In any case, the total sum to be paid the Contractor shall not exceed the total contract price reduced by the amount of any sales of construction supplies, and construction materials.

7.28.4.4 Costs claimed, agreed to, or established by the State shall be in accordance with chapter 3-123, HAR.

**7.29 CORRECTING DEFECTS** - If the Contractor fails to commence to correct any defects of any nature, within ten (10) working days after the correction thereof has been requested in writing by the State, and thereafter to expeditiously complete the correction of said defects, the Engineer may without further notice to the Contractor or surety and without termination of contract, correct the defects and deduct the cost thereof from the contract price.

**7.30 FINAL CLEANING** - Before final inspection of the work, the Contractor shall clean all ground occupied by the Contractor in connection with the Work of all rubbish, excess materials, temporary structures and equipment, and all parts of the work must be left in a neat and presentable condition to the satisfaction of the Engineer. However, the Contractor shall not remove any

warning and directional signs prior to the formal acceptance by the Engineer. Full compensation for final cleaning will be included in the prices paid for the various items of work or lump sum bid, as the case may be, and no separate payment will be made therefore.

**7.31 SUBSTANTIAL COMPLETION, AND FINAL INSPECTION** - Before the Department accepts the project as being completed, unless otherwise stipulated by the Engineer, the following procedure shall be followed:

7.31.1 Substantial Completion:

7.31.1.1 The Contractor and its subcontractors shall inspect the project to confirm whether the Project is Substantially Complete. This inspection effort shall include the testing of all equipment and providing a Punch list that identifies deficiencies which must be corrected. Contractor shall make the corrections and if required repeat the procedure. Also, the Contractor shall schedule final Building, Plumbing, Electrical, Elevator, Fire and other required inspections and obtain final approvals.

(a) When in compliance with the above requirements, the Contractor shall notify the Engineer in writing that project is Substantially Complete and ready for a Final Inspection. Along with the Substantial Completion notification, the Contractor shall provide its Punch list(s) with the status of the deficiencies and dates when the deficiencies were corrected. The Project Inspector and / or the Engineer shall make a preliminary determination whether project is Substantially Complete.

(b) If the Project is not Substantially Complete, the Engineer shall inform the Contractor. The Contractor shall identify deficiencies which must be corrected, update its Punch list, make the necessary corrections and repeat the previous step. After completing the necessary work, the Contractor shall notify the Engineer in writing that Punch list deficiencies have been corrected and the project is ready for a Final Inspection.

(c) If the Project is Substantially Complete, the Engineer shall schedule a Final Inspection within fifteen (15) days of the Contractor's notification letter or as otherwise determined by the Engineer.

7.31.1.2 In addition, and to facilitate closing of the project, the Contractor shall also proceed to obtain the following closing documents (where applicable) prior to the Final Inspection:

- (1) Field-Posted As-Built Drawings.
- (2) Maintenance Service Contract and two (2) copies of a list of all equipment.

- (3) Operating and maintenance manuals.
- (4) Air conditioning test and balance reports.
- (5) Any other final submittal required by the technical sections of the contract.

7.31.2 Final Inspection: If at the Final Inspection the Engineer determines that all work is completed, the Engineer shall notify the Contractor in accordance with Section 7.32 PROJECT ACCEPTANCE DATE. Should there be remaining deficiencies which must be corrected, the Contractor shall provide an updated Punch list to the Engineer, within five (5) days from the Final Inspection Date. The Contractor shall make the necessary corrections.

7.31.2.1 The Engineer shall confirm the list of deficiencies noted by the Contractor's punch list(s) and will notify the Contractor of any other deficiencies that must be corrected before final settlement.

7.31.3 The Engineer may add to or otherwise modify the Punch list from time to time. The Contractor shall take immediate action to correct the deficiencies.

7.31.4 Revoking Substantial Completion - At any time before final Project Acceptance is issued, the Engineer may revoke the determination of Substantial Completion if the Engineer finds it was not warranted. The Engineer shall notify the Contractor in writing with the reasons and outstanding deficiencies negating the declaration. Once notified, the Contractor shall make the necessary corrections and repeat the required steps noted in subsections 7.31.1 and 7.31.2.

**7.32 PROJECT ACCEPTANCE DATE**

7.32.1 If upon Final Inspection, the Engineer finds that the project has been satisfactorily completed in compliance with the contract, the Engineer shall declare the project completed and accepted and will notify the Contractor in writing of the acceptance by way of the Project Acceptance Notice.

7.32.2 Protection and Maintenance - After the Project Acceptance Date, the Contractor shall be relieved of maintaining and protecting the work EXCEPT that this does not hold true for those portions of the work which have not been accepted, including Punch list deficiencies. The State shall be responsible for the protection and maintenance of the accepted facility.

7.32.3 The date of Project Acceptance shall determine:

7.32.3.1 End of Contract Time.

7.32.3.2 Commencement of all guaranty periods except as noted in Section 7.34 CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS.

7.32.3.3 Commencement of all maintenance services except as noted in Section 7.34 CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS.

7.32.4 Punch list Requirements - If a Punch list is required under Section 7.31 SUBSTANTIAL COMPLETION AND FINAL INSPECTION, the Project Acceptance Notice will include the Engineer's Punch list and the date when correction of the deficiencies must be completed.

7.32.4.1 Punch list corrective work shall be completed prior to Contract Completion Date, or extension thereof.

7.32.5 Upon receiving the Punch list, the Contractor shall promptly devote the required time, labor, equipment, materials and incidentals necessary to correct the deficiencies expeditiously.

7.32.6 For those items of work that cannot be completed by the established date, the Contractor shall submit a schedule in writing to the Engineer for approval along with documentation to justify the time required, no later than five (5) working days before the date stipulated for completion of the Punch list work. A Proposed schedule submitted after the five (5) day period will not be considered.

7.32.7 Failure to Correct Deficiencies - If the Contractor fails to correct the deficiencies within the time established in paragraph 7.32.4.1, the Contracting Officer shall assess liquidated damages as required by Section 7.26 - FAILURE TO COMPLETE THE WORK ON TIME.

7.32.8 If the Contractor fails to correct the deficiencies and complete the work by the established or agreed to date, the State also reserves the right to correct the deficiencies by whatever method it deems necessary and deduct the cost from the final payment due the contractor.

7.32.9 The Contractor may further be prohibited from bidding in accordance with Section 2.12 - DISQUALIFICATION OF BIDDERS. In addition, assessment of damages shall not prevent action under Section 7.27 - TERMINATION OF CONTRACT FOR CAUSE.

**7.33 FINAL SETTLEMENT OF CONTRACT -** The contract will be considered settled after the project acceptance date and when the following items have been satisfactorily submitted, where applicable:

7.33.1 Necessary Submissions in addition to the items noted under paragraph 7.31.1.2.



7.33.1.1 All written guarantees required by the contract.

7.33.1.2 Complete and certified weekly payrolls for the Contractor and its Subcontractor(s).

7.33.1.3 Certificate of Plumbing and Electrical Inspection.

7.33.1.4 Certificate of Building Occupancy.

7.33.1.5 Certificates for Soil Treatment and Wood Treatment.

7.33.1.6 Certificate of Water System Chlorination.

7.33.1.7 Certificate of Elevator Inspection, Boiler and Pressure Pipe installation.

7.33.1.8 All other documents required by the Contract.

7.33.2 Failure to Submit Closing Documents - The Contractor shall submit the final Payment Application and the above applicable closing documents within sixty (60) days from the date of Project Acceptance or the agreed to Punch list completion date. Should the Contractor fail to comply with these requirements, the Engineer may terminate the Contract for cause. The pertinent provisions of Section 7.27 TERMINATION OF CONTRACT FOR CAUSE shall be applicable.

7.33.3 In addition, should the Contractor fail to furnish final closing documents within the required time period, the Engineer shall assess performance liquidated damages as required by Section 7.26 FAILURE TO COMPLETE THE WORK ON TIME.

### **7.34 CONTRACTOR'S RESPONSIBILITY FOR WORK; RISK OF LOSS**

7.34.1 Until the establishment of the Project Acceptance Date or Beneficial Occupancy whichever is sooner, the Contractor shall take every necessary precaution against injury or damage to any part of the work caused by the perils insured by an All Risk policy excluding earthquakes and floods, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and make good all injuries or damage to any portion of the work occasioned by the perils insured by an All Risk policy before the date of final acceptance and shall bear the risk and expense thereof.

7.34.2 After the Project Acceptance Date or Beneficial Occupancy whichever is sooner, the Contractor shall be relieved of maintaining and protecting the work except for those portions of the work which have not been accepted including Punch list deficiencies.

7.34.3 The risk of damage to the work from any hazard or occurrence that may be covered by a required Property Insurance policy is that of the Contractor, unless such risk of loss is placed elsewhere by express language in the contract documents. No claims for any loss or damage shall be recognized by the Department, nor will any such loss or damage excuse the complete and satisfactory performance of the contract by the Contractor.

### **7.35 GUARANTEE OF WORK**

7.35.1 In addition to any required manufacturers warranties, all work and equipment shall be guaranteed by the Contractor against defects in materials, equipment or workmanship for one year from the Project Acceptance Date or as otherwise specified in the Contract Documents, whichever is earlier.

7.35.2 Repair of Work - If, within any guarantee period, repairs or changes are required in connection with the guaranteed work, which in the opinion of the Engineer is necessary due to materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the Contractor shall within five (5) working days and without expense to the Department commence to:

7.35.2.1 Place in satisfactory condition in every instance all such guaranteed work and correct all defects therein; and

7.35.2.2 Make good and repair or replace to new or pre-existing condition all damages to the building, facility, work or equipment or contents thereof, resulting from such defective materials, equipment or installation thereof.

7.35.3 Manufacturer's and Installer's Guarantee-Whenever a manufacturer's or installer's guarantee on any product specified in the respective Specification sections, exceeds one year, this guarantee shall become part of this contract in addition to the Contractor's guarantee. Contractor shall complete the guarantee forms in the name of the Department and submit such forms to the manufacturer within such time required to validate the guarantee. Contractor shall submit to the Department a photocopy of the completed guarantee form for the Department's record as evidence that such guarantee form was executed by the manufacturer.

7.35.4 If a defect is discovered during a guarantee period, all repairs and corrections to the defective items when corrected shall again be guaranteed for the original full guarantee period. The guarantee period shall be tolled and suspended for all work affected by the defect. The guarantee period for work affected by the defect shall restart for its remaining duration upon confirmation by the Engineer that the deficiencies have been repaired or remedied.

7.35.5 If guarantee is specified for greater than two (2) years, two (2) years shall prevail except for manufacturer's warranties. Manufacturer's warranties shall remain as specified in their respective Specification sections.

7.35.5.1 However, the number of years specified in the technical specifications shall prevail only if it is stated that the number of years for guarantee supersedes this provision.

### **7.36 WORK OF AND CHARGES BY UTILITIES**

7.36.1 The Contractor shall be responsible for scheduling and coordinating the work with the utility companies and applicable Governmental agencies for permanent service installation and connections or modifications to existing utilities. The Contractor shall make available all portions of the work necessary for the Utility companies to do their work. The Department shall not bear the risk of any damage to the contract work caused by any utility company, and work of repairing such damage and delay costs must be resolved between the Contractor and the utility company and their insurers.

7.36.2 Unless stated as an allowance item to be paid by the Contractor, the Department will pay the utility companies and applicable governmental agencies directly for necessary modifications and connections. Contractor charges for overhead, supervision, coordination, profit, insurance and any other incidental expenses shall be included in the Contractor's Bid whether the utility is paid directly by the Department or by an allowance item in the Contract.

### **7.37 RIGHT TO AUDIT RECORDS**

7.37.1 Pursuant to Section 103D-317 HRS the State, at reasonable times and places, may audit the books and records of a Contractor, prospective contractor, subcontractor and prospective subcontractor relating to the Contractor's or subcontractor's cost or pricing data. The books and records shall be maintained by the Contractor and subcontractor(s) for a period of four (4) years from the date of final payment under the contract.

7.37.2 The Contractor shall insure that its subcontractors comply with this requirement and shall bear all costs (including attorney's fees) of enforcement in the event of its subcontractor's failure or refusal to fully cooperate.

7.37.3 Additionally, Sections 231-7, 235-108, 237-39 and other HRS chapters through reference, authorizes the Department of Taxation to audit all taxpayers conducting business within the State. Contractors must make

available to the Department of Taxation all books and records necessary to verify compliance with the tax laws.

### **7.38 RECORDS MAINTENANCE, RETENTION AND ACCESS**

7.38.1 The Contractor and any subcontractor whose contract for services is valued at \$25,000 or more shall, in accordance with generally acceptable accounting practices, maintain fiscal records and supporting documents and related files, papers, and reports that adequately reflect all direct and indirect expenditures and management and fiscal practices related to the Contractor and subcontractor's performance of services under this Agreement.

7.38.2 The representative of the Department, the Adjutant General of the State of Hawaii, the Attorney General, (the Federal granting agency, the Comptroller General of the United States, and any of their authorized representatives when federal funds are utilized), and the Legislative Auditor of the State of Hawaii shall have the right of access to any book, document, paper, file, or other record of the Contractor and any subcontractor that is related to the performance of services under this Agreement in order to conduct an audit or other examination and / or to make copies, excerpts and transcripts for the purposes of monitoring and evaluating the Contractor and subcontractor's performance of services and the Contractor and subcontractor's program, management, and fiscal practices to assure the proper and effective expenditure of funds and to verify all costs associated with any claims made under this Agreement.

7.38.3 The right of access shall not be limited to the required retention period but shall last as long as the records are retained. The Contractor and subcontractor shall retain all records related to the Contractor and subcontractor's performance of services under this Agreement for four (4) years from the date of final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four (4) year period, the Contractor and subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four (4) year retention period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any subcontractor.

## **ARTICLE 8 - Measurement and Payment**

### **8.1 MEASUREMENT OF QUANTITIES**

8.1.1 All work completed under the Contract shall be measured by the Engineer according to United States standard measures, or as stated in this Contract. The method of measurement and computations to be used in

determination of quantities of material furnished and of work performed under the contract shall conform to good engineering practice. These measurements shall be considered correct and final unless the Contractor has protested same to the Engineer and has demonstrated the existence of an error by actual physical measurement before the work has progressed in a manner which would prohibit a proper check.

8.1.2 All measurements of the area of the various surface, pavement and base courses will be made in the horizontal projection of the actual surface and no deductions will be made for fixtures or structures having an area of nine (9) square feet or less. All measurements of headers, curbs, fences and any other type of construction which is to be paid for by its length, will be made in the horizontal projection of the actual driven length from toe to top of cutoff, except where slope exceeds ten percent (10%) and for piles, which will be by actual length. All materials which are specified for measurement by the cubic yard "Loose Measurement" or "Measured in the Vehicle" shall be hauled in approved vehicles and measured therein at the point of delivery. Approved vehicles for this purpose may be of any type or size satisfactory to the Engineer, provided that the body is of such type that the actual contents may be readily and accurately determined. Unless all approved vehicles on a job are of a uniform capacity each approved vehicle must bear a plainly legible identification mark indicating the specific approved capacity. The Inspector may reject all loads not hauled in such approved vehicles.

**8.2 NO WAIVER OF LEGAL RIGHTS** - The Engineer shall not be precluded or estopped by any measurements, estimate or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, or from showing that any such measurement estimate or certificate is untrue or incorrectly made, or rejecting the work or materials that do not conform in fact to the contract. The Engineer shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and its sureties such damages as the Department may sustain by reason of the Contractor's failure to comply with the terms of the contract. Neither the acceptance by the Engineer or any representative of the Engineer, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, or any possession taken by the Engineer, shall operate as a waiver of any portion of the contract, or of any power herein reserved, or any right to damage herein provided. A waiver of any notice requirement or breach of the contract shall not be held to be a waiver of any other notice requirement or subsequent breach.

### **8.3 PAYMENT FOR ADDITIONAL WORK**

8.3.1 Payment for Changed Conditions – A contract modification or change order complying with section 4.4 PRICE ADJUSTMENT and section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT shall be issued for all changes that are directed under Section 4.2 CHANGES. No payment for any change including work performed under the force account provisions will be made until a change order is issued or contract modification is executed.

8.3.1.1 At the completion of the force account work or at an intermediate interval approved by the Engineer, the contractor shall submit its force account cost proposal, including; approved daily force account records with any attached invoices or receipt, to the Engineer for processing a contract modification or change order.

8.3.2 On credit proposals and proposals covering both increases and decreases, the application of overhead and profit shall be on the net change in direct costs for the performance of the work.

8.3.3 When payment is to be made for additional work directed by a field order, the total price adjustment as specified in the field order or if not specified therein for the work contained in the related change order shall be considered full compensation for all materials, labor, insurance, taxes, equipment use or rental and overheads, both field and home office including extended home and branch office overhead and other related delay impact costs.

8.3.4 Force Account Method - When, for the convenience of the Department, payment is to be made by the Force Account method, all work performed or labor and materials and equipment furnished shall be paid for as described below. Payment by the Force Account method will not alter any rights, duties and obligations under the contract.

8.3.4.1 Labor - For all hourly workers, the Contractor will receive the rate of wage including fringe benefits when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work, which shall be agreed upon in writing before beginning work for each and every hour that said labor is actually engaged in said work.

(a) All markups for overhead and profit shall be added subject to limitations established in Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.

(b) No allowance for overtime compensation will be given without the written approval of the Engineer prior to performance of such work.

8.3.4.2 Insurance and Taxes - The Contractor and subcontractor(s) will also receive the actual additional costs paid for property damage, liability, workers compensation insurance premiums, State unemployment contributions, Federal unemployment taxes, social security and Medicare taxes to which a markup of up to six percent (6%) may be added.

8.3.4.3 Materials - For materials accepted by the Engineer and used, the Contractor and subcontractor(s) shall receive the actual cost of such materials delivered and incorporated into work, plus a markup allowed under Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.

8.3.4.4 Subcontractors - Subcontractor costs shall be the actual costs of the subcontractor marked up as defined in this Section 8.3 plus a markup allowed under Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.

#### 8.3.4.5 Equipment

(1) For machinery or special equipment (other than small tools as herein defined in clause 8.3.4.5.(h) owned or leased by the Contractor or a related entity, the use of which has been authorized by the Engineer:

(a.) The Contractor will be paid at the per-hour rental rates based on the monthly rate established for said machinery or equipment in the then-current edition of the Rental Rate Blue Book for Construction Equipment including the estimated operating cost per hour and regional correction provided therein.

(b.) If no rate is listed for a particular kind, type or size of machinery or equipment, then the monthly, hourly rates shall be as agreed upon in writing by the Contractor and the Engineer prior to the use of said machinery or equipment. If there is no agreement, the Engineer will set a rate. The Contractor may contest the rate pursuant to Section 7.25 DISPUTES AND CLAIMS.

(c.) Rental rates which are higher than those specified in the aforesaid Rental Rate Blue Book publication may be allowed where such higher rates can be justified by job conditions such as work in water and work on lava, etc. Request for such higher rates shall be submitted in writing to the Engineer for approval prior to the use of the machinery or equipment in question.

(2) For machinery or special equipment (other than small tools as herein defined in clause 8.3.4.5.(h) rented by the Contractor or a related entity specifically for the

Force Account work, the use of which has been authorized by the Engineer; The Contractor will be paid the actual rental cost for the machinery or equipment, including mobilization and demobilization costs. A receipt from the equipment supplier shall be submitted to the Engineer.

(3) For machinery or special equipment (other than small tools as herein defined in clause 8.3.4.5. (h) rented by the Contractor or a related entity for use in the project, but which will also be used for the Force Account work, the use of which has been authorized by the Engineer; The Contractor will be paid the actual rental cost for the machinery or equipment. No additional mobilization and demobilization costs will be paid. A receipt from the equipment supplier shall be submitted to the Engineer.

(4) The rental rate for trucks not owned by the Contractor shall be those as established under the Hawaii State Public Utilities Commission, which will be paid for as an equipment item pursuant to paragraph 8.3.4.5. Rental rates for Contractor-owned trucks not listed in the Rental Rate Blue Book shall be agreed upon in writing by the Contractor and Engineer prior to the use of said trucks. If there is no agreement, the Engineer shall set the rate. The Contractor may contest the rate pursuant to Section 7.25 DISPUTES AND CLAIMS.

(5) The rental period shall begin at the time equipment reaches the site of work, shall include each day that the machinery or equipment is at the site of the work and shall terminate at the end of the day on which the equipment is no longer needed. In the event the equipment must standby due to work being delayed or halted by reason of design, traffic, or other related problems uncontrollable by the Contractor, excluding Saturdays, Sundays and Legal Holidays, unless the equipment is used to perform work on such days, the rental shall be two hours per day until the equipment is no longer needed.

(5.1) The rental time to be paid will be for the time actually used. Any hours or operation in excess of 8 hours in any one day must be approved by the Engineer prior to the performance of such work.

(5.2) Rental time will not be allowed or credited for any day on which machinery or equipment is inoperative due to its breakdown. On such days, the Contractor will be paid only for the actual hours, if any, that the machinery or equipment was in operation.

(5.3) In the event the Force Account work is completed in less than 8 hours, equipment

- rental shall nevertheless be paid for a minimum 8 hours.
- (5.4) For the purpose of determining the rental period the continuous and consecutive days shall be the normal 8-hour shift work day, Monday through Friday excluding legal holidays. Any work day to be paid less than 8 hours shall not be considered as continuous, except for equipment removed from rental for fuel and lubrication.
- (5.5) No additional premium beyond the normal rates used will be paid for equipment over 8 hours per day or 40 hours per week.
- (6) All rental rates for machinery and equipment shall include the cost of fuel, oil, lubricants, supplies, small tools, necessary attachments, repairs, maintenance, tire wear, depreciation, storage, and all other incidentals.
- (7) All machinery and equipment shall be in good working condition and suitable for the purpose for which the machinery and equipment is to be used.
- (8) Individual pieces of equipment or tools having a replacement value of one thousand dollars (\$1,000) or less, whether or not consumed by use, shall be considered to be small tools and included in the allowed markup for overhead and profit and no separate payment will be made therefore.
- (9) The total of all Force Account rental charges accrued over the duration of the contract for a specific item of equipment shall not exceed the replacement cost of that equipment.
- (9.1) The Contractor shall provide the cost of replacement to the Engineer prior to using the equipment. If the Engineer does not agree with the replacement cost, the Engineer shall set the replacement cost. The Contractor may contest the replacement cost pursuant to Section 7.25 DISPUTES AND CLAIMS.
- (10) Should the item of equipment be rented from an unrelated entity, the rental cost will be treated as an equipment cost under paragraph 8.3.4.5.
- (11) Transportation and/or Mobilization: The following provisions shall govern in determining the compensation to be paid to the Contractor for use of equipment or machinery on the Force Account method:
- (11.1) The location from which the equipment is to be moved or transported shall be approved by the Engineer.
- (11.2) Where the equipment must be transported to the site of the force account work, the Department will pay the reasonable cost of mobilizing and transporting the equipment, including its loading and unloading, from its original location to the site of force account work. Upon completion of the work the Department will pay the reasonable cost of mobilizing and transporting the equipment back to its original location or to another location, whichever cost is less.
- (11.3) The cost of transporting the equipment shall not exceed the rates established by the Hawaii State Public Utilities Commission. If such rates are nonexistent, then the rates will be determined by the Engineer based upon the prevailing rates charged by established haulers within the locale.
- (11.4) Where the equipment is self-propelled, the Department will pay the cost of moving the equipment by its own power from its original location to the site of the force account work. Upon completion of the work the Department will pay the reasonable cost of moving of the Equipment back to its original or another location, whichever cost is less.
- (11.5) At the discretion of the Engineer, when the Contractor desires to use such equipment for other than Force Account work, the costs of mobilization and transportation shall be prorated between the Force Account and non Force Account work.
- (12) Pickup trucks, vans, storage trailers, unless specifically rented for the Force Account work, shall be considered incidental to the Force Account work and the costs therefore are included in the markup allowed under Section 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT.
- 8.3.4.6 State Excise (Gross Income) Tax and Bond - A sum equal to the current percentage rate for the State excise (Gross Income) tax on the total sum determined in paragraphs 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 above, and the bond premium shall be added as compensation to the Contractor. The actual bond premium not to exceed one percent (1%) shall be added to items covered by paragraphs 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 when applicable.

- (1) The compensation as determined in paragraphs 8.3.4.1, 8.3.4.2, 8.3.4.3, 8.3.4.4 and 8.3.4.5 above shall be deemed to be payment in full for work paid on a force account basis.

8.3.4.7 Records - The Contractor and the Engineer shall compare records of the labor, materials and equipment rentals paid by the Force Account basis at the end of each day. These daily records, if signed by both parties, shall thereafter be the basis for the quantities to be paid for by the Force Account method. The Contractor shall not be entitled to payment for Force Account records not signed by the Engineer.

8.3.4.8 Statements - No payment will be made for work on a Force Account basis until the Contractor has submitted to the Engineer, duplicate itemized statements of the cost of such Force Account work detailed as follows:

- (a) Laborers - Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman and also the amount of fringe benefits payable if any.
- (b) Equipment - Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
- (c) Materials
  - (c.1) Quantities of materials, prices and extensions
  - (c.2) Costs of transporting materials, if such cost is not reflected in the prices of the materials.
  - (c.3) Statements shall be accompanied and supported by receipted invoices for all materials used and transportation charges. However, if materials used on the Force Account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractors shall submit an affidavit certifying that such materials were taken from stock and that the amount claimed represents the actual cost to the Contractor.
- (d) Insurance - Cost of property damage, liability and worker's compensation insurance premiums, unemployment insurance contributions, and social security tax.

#### **8.4 PROGRESS AND / OR PARTIAL PAYMENTS**

8.4.1 Progress Payments - The Contractor will be allowed progress payments on a monthly basis upon

preparing the Monthly Payment Application forms and submitting them to the Engineer. The monthly payment shall be based on the items of work satisfactorily completed and the value thereof at unit prices and/or lump sum prices set forth in the contract as determined by the Engineer and will be subject to compliance with Section 7.9 PAYROLLS AND PAYROLL RECORDS.

8.4.2 In the event the Contractor or any Subcontractor fails to submit certified copies of payrolls in accordance with the requirements of Section 7.9 PAYROLLS AND PAYROLL RECORDS, the Engineer may retain the amount due for items of work for which payroll affidavits have not been submitted on a timely basis notwithstanding satisfactory completion of the work until such records have been duly submitted. The Contractor shall not be due any interest payment for any amount thus withheld.

8.4.3 Payment for Materials - The Contractor will also be allowed payments of the manufacturer's, supplier's, distributor's or fabricator's invoice cost of accepted materials to be incorporated in the work on the following conditions:

8.4.3.1 The materials are delivered and properly stored at the site of Work; or

8.4.3.2 For special items of materials accepted by the Engineer, the materials are delivered to the Contractor or subcontractor(s) and properly stored in an acceptable location within a reasonable distance to the site of Work.

8.4.4 Partial payments shall be made only if the Engineer finds that:

8.4.4.1 The Contractor has submitted bills of sale for the materials or otherwise demonstrates clear title to such materials.

8.4.4.2 The materials are insured for their full replacement value to the benefit of the Department against theft, fire, damages incurred in transportation to the site, and other hazards.

8.4.4.3 The materials are not subject to deterioration.

8.4.4.4 In case of materials stored off the project site, the materials are not commingled with other materials not to be incorporated into the project.

#### **8.5 PROMPT PAYMENT §3-125-23 HAR**

8.5.1 Any money paid to a Contractor for work performed by a subcontractor shall be disbursed to such subcontractor within ten (10) days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and

conditions of the subcontract and there are no bona fide disputes on which the Engineer has withheld payment.

8.5.2 Upon final payment to the Contractor, full payment to all subcontractors shall be made within ten (10) days after receipt of the money, provided there are no bona fide disputes over the subcontractor's performance under the subcontract.

8.5.3 All sums retained or withheld from a subcontractor and otherwise due to the subcontractor for satisfactory performance under the subcontract shall be paid by the contracting officer to the contractor and subsequently, upon receipt from the contracting officer, by the contractor to the subcontractor within the applicable time periods specified in subsection 8.5.2 and section 103-10 HRS.

8.5.3.1 Where a subcontractor has provided evidence to the contractor of satisfactorily completing all work under their subcontract and has provided a properly documented final payment request as described in subsection (8.5.5) of this section, and;

8.5.3.1.a Has provided to the contractor an acceptable performance and payment bond for the project executed by a surety company authorized to do business in the State, as provided in section 8.6 RETAINAGE; or

8.5.3.1.b The following has occurred:

8.5.3.1.b.1 A period of ninety days after the day on which the last of the labor was done or performed and the last of the material was furnished or supplied has elapsed without written notice of a claim given to contractor and the surety, as provided for in section 103D-324 HRS; and

8.5.3.1.b.2 The subcontractor has provided to the contractor:

8.5.3.1.b.2.1 An acceptable release of retainage bond, executed by a surety company authorized to do business in the State, in an amount of not more than two times the amount being retained or withheld by the contractor.

8.5.3.1.b.2.2 Any other bond acceptable to the contractor; or

8.5.3.1.b.2.3 Any other form of mutually acceptable collateral.

8.5.4 If the contracting officer or the contractor fails to pay in accordance with this section, a penalty of one and one-half per cent per month shall be imposed upon the outstanding amounts due that were not timely paid by the responsible party. The penalty may be withheld from future payment due to the contractor, if the contractor was the responsible party. If a contractor has violated subsection 8.5.2 three or more times within two years of the first violation, the contractor shall be referred by the

contracting officer to the contractor license board for action under section 444-17(14) HRS.

8.5.5 Final Payment Request. A properly documented final payment request from a subcontractor, as required by subsection 8.5.3, shall include:

8.5.5.1 Substantiation of the amounts requested;

8.5.5.2 A certification by the subcontractor, to the best of the subcontractor's knowledge and belief, that:

8.5.5.2.a The amounts requested are only for performance in accordance with the specification, terms, and conditions of the subcontract;

8.5.5.2.b The subcontractor has made payments due to its subcontractors and suppliers from previous payments received under the subcontract and will make timely payments from the proceeds of the payment covered by the certification, in accordance with their subcontract agreements and the requirements of this section; and

8.5.5.2.c The payment request does not include any amounts that the subcontractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of their subcontract; and

8.5.5.2.d The submission of documentation confirming that all other terms and conditions required under the subcontract agreement have been fully satisfied.

8.5.6 The Engineer shall return any final payment request that is defective to the contractor within seven days after receipt, with a statement identifying the defect.

8.5.7 A payment request made by a contractor to the Engineer that includes a request for sums that were withheld or retained from a subcontractor and are due to a subcontractor may not be approved under subsection 8.5.3 unless the payment request includes:

8.5.7.1 Substantiation of the amounts requested; and

8.5.7.2 A certification by the contractor, to the best of the contractor's knowledge and belief, that:

8.5.7.2.a The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

8.5.7.2.b The subcontractor has made payments due to its subcontractors and suppliers from previous payments received under the contract and will make timely payments from the proceeds of the payment covered by the certification, in accordance with their subcontract agreements and the requirements of this section; and

8.5.7.2.c The payment request does not include any amounts that the contractor intends to withhold or retain

from a subcontractor or supplier in accordance with the terms and conditions of their subcontract.

8.5.8 The Engineer shall return any final payment request that is defective to the contractor within seven days after receipt, with a statement identifying the defect.

8.5.9 This section shall not be construed to impair the right of a contractor or a subcontractor at any tier to negotiate and to include in their respective subcontracts provisions that provide for additional terms and conditions that are requested to be met before the subcontractor shall be entitled to receive final payment under subsection 8.5.3 of this section; provided that any such payments withheld shall be withheld by the Engineer.

**8.6 RETAINAGE** – The Department will retain a portion of the amount due under the contract to the contractor, to ensure the proper performance of the contract.

8.6.1 The sum withheld by the Department from the contractor shall not exceed five percent (5%) of the total amount due the contractor and that after fifty percent (50%) of the contract is completed and progress is satisfactory, no additional sum shall be withheld; provided further that if progress is not satisfactory, the Engineer may continue to withhold as retainage, sums not exceeding five percent (5%) of the amount due the contractor.

8.6.2 The retainage shall not include sums deducted as liquidated damages from moneys due or that may become due the contractor under the contract.

8.6.3 General Obligation Bonds – The contractor may withdraw retainage monies in whole or in part by providing a general obligation bond of the State or its political subdivisions suitable to the Department. The contractor shall endorse over to the Department and deposit with the Department any general obligation bond suitable to the Department, but in no case with a face value less than the value established by law, of the amount to be withdrawn. The Department may sell the bond and use the proceeds in the same way as it may use monies directly retained from progress payments or the final payment.

8.6.4 Any retainage provided for in this section or requested to be withheld by the contractor shall be held by the Engineer.

8.6.5 A dispute between a contractor and subcontractor of any tier shall not constitute a dispute to which the State or any county is a party, and there is no right of action against the State or any county. The State and a county may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

8.6.6 The retention amount withheld by the contractor from its subcontractor shall be not more than the same percentage of retainage as that of the contractor (also applies to subcontractors who subcontract work to other subcontractors) where a subcontractor has provided evidence to the contractor of:

8.6.6.1 A valid performance and a payment bond for the project that is acceptable to the contractor and executed by a surety company authorized to do business in this State;

8.6.6.2 Any other bond acceptable to the contractor; or

8.6.6.3 Any other form of collateral acceptable to the contractor.

8.6.7 A written notice of any withholding shall be issued to a subcontractor, with a copy to the procurement officer, specifying the following:

8.6.7.1 The amount to be withheld;

8.6.7.2 The specific causes for the withholding under the terms of the subcontract; and

8.6.7.3 The remedial actions to be taken by the subcontractor to receive payment of the amounts withheld.

8.6.8 The provisions of this section shall not be construed to require payment to subcontractors of retainage released to a contractor pursuant to an agreement entered into with the contracting officer meeting the requirements of subsection 8.6.3.

**8.7 WARRANTY OF CLEAR TITLE** - The Contractor warrants and guarantees that all work and materials covered by progress payments made thereon shall be free and clear of all liens, claims, security interests or encumbrances, and shall become the sole property of the Department. This provision shall not, however, be construed as an acceptance of the work nor shall it be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Department to require the fulfillment of all the items of the contract.

## **8.8 FINAL PAYMENT**

8.8.1 Upon final settlement, the final payment amount, less all previous payments and less any sums that may have been deducted in accordance with the provisions of the contract, will be paid to the Contractor, provided the Contractor has submitted a Tax Clearance Certificate from the Department of Taxation and the Internal Revenue Service to the effect that all taxes levied or



accrued under Federal and State Statutes against the contractor have been paid.

8.8.2 Sums necessary to meet any claims of any kind by the State may be retained from the sums due the Contractor until said claims have been fully and completely discharged or otherwise satisfied.

**8.9 CLAIMS ARISING OUT OF PAYMENT FOR REQUIRED WORK** - If the Contractor disputes any determination made by the Engineer regarding the amount of work satisfactorily completed, or the value thereof, or the manner in which payment therefore is made or calculated, it shall notify the Engineer in writing of the specific facts supporting the Contractor's position. Such notice shall be delivered to the Engineer no later than thirty (30) days after the Contractor has been tendered payment for the subject work, or, if no payment has been tendered, not later than fifty (50) days after it has submitted the Monthly Payment Application required under Section 8.4 PROGRESS PAYMENTS herein to the Engineer for the work that is the subject of the dispute. The delivery of the written notice cannot be waived and shall be a condition precedent to the filing of the claim. No claim for additional compensation for extra work or change work shall be allowed under this provision, unless the notice requirements of Article 4 SCOPE OF WORK have been followed. Acceptance of partial payment of a Monthly Payment Application amount shall not be deemed a waiver of the right to make a claim described herein provided the notice provisions are followed. The existence of or filing of a payment claim herein shall not relieve the Contractor of its duty to continue with the performance of the contract in full compliance with the directions of the Engineer. Any notice of claim disputing the final payment made pursuant to Section 8.8 FINAL PAYMENT must be submitted in writing not later than thirty (30) days after final payment that is identified as such has been tendered to the Contractor.

**ARTICLE 9 - CONFIDENTIALITY OF PERSONAL INFORMATION**

9.1 Definitions. "Personal information" means an individual's first name or first initial and last name in combination with any one or more of the following data elements, when either name or data elements are not encrypted:

1. Social Security number,
2. Driver's license number or Hawaii identification card number; or
3. Account number, credit or debit card number, access code, or password that would permit access to an individual's financial information.

Personal information does not include publicly available information that is lawfully made available to the general public from federal, state or local government records.

"Technological safeguards" means the technology and the policy and procedures for use of the technology to protect and control access to personal information.

9.2 Confidentiality of Material.

- (1) All material given to or made available to the CONTRACTOR by the STATE by virtue of this Contract which is identified as personal information shall be safeguarded by the CONTRACTOR and shall not be disclosed without the prior written approval of the STATE.
- (2) CONTRACTOR agrees not to retain, use, or disclose personal information for any purpose other than as permitted or required by this Contract.
- (3) CONTRACTOR agrees to implement appropriate "technological safeguards" that are acceptable to the STATE to reduce the risk of unauthorized access to personal information.
- (4) CONTRACTOR shall report to the STATE in a prompt and complete manner any security breaches involving personal information.
- (5) CONTRACTOR agrees to mitigate, to the extent practicable, any harmful effect that is known to CONTRACTOR because of a use or disclosure of personal information by CONTRACTOR in violation of the requirements of this paragraph.
- (6) CONTRACTOR shall complete and retain a log of all disclosures made of personal information received from the STATE, or personal information created or received by CONTRACTOR on behalf of the STATE.

9.3 Security Awareness Training and Confidentiality Agreements.

- (1) CONTRACTOR certifies that all of its employees who will have access to the personal information have completed training on security awareness topics relating to protecting personal information.
- (2) CONTRACTOR certifies that confidentiality agreements have been signed by all of its employees who will have access to the personal information acknowledging that:
  - (a) The personal information collected, used or maintained by the CONTRACTOR will be treated as confidential;

- (b) Access to the personal information will be allowed only as necessary to perform the Contract; and
- (c) Use of the personal information will be restricted to uses consistent with the services subject to this Contract.

9.4 Termination for Cause. In addition to any other remedies provided for by this Contract, if the STATE learns of a material breach by CONTRACTOR of this paragraph by CONTRACTOR, the State may at its sole discretion:

- (1) Provide an opportunity for the CONTRACTOR to cure the breach or end the violation; or
- (2) Immediately terminate this Contract.

9.5 Records Retention.

- (1) Upon any termination of this Contract, CONTRACTOR shall pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
- (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall not be disclosed without the prior written approval of the STATE. After the three (3) year retention period has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS.

ADDITIONAL GENERAL CONDITIONS FOR  
CONSTRUCTION CONTRACTS

*The following sections of the Hawaii Administrative Rules, Chapter §3-125 are hereby incorporated and made a part of the General Conditions.*

CHANGES FOR CONSTRUCTION CONTRACTS - §HAR 3-125-4

1. Change Order. The procurement officer, at any time, and without notice to any surety in a signed writing designated or indicated to be a change order, may make changes in the work within the scope of the contract as may be found to be necessary or desirable. Such changes shall not invalidate the contract or release the sureties, and the contractor will perform the work as changed, as though it had been part of the original contract. Minor changes in the work may be directed by the procurement officer with no change in contract price or time or performance.
2. Adjustments of price or time for performance. If any change order increases or decreases the contractor's cost of, or the time required for performance of any part of the work under this contract, whether or not changed by the order, an adjustment may be made and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the price adjustment clause of this contract. Failure of the parties to agree to an adjustment shall not excuse a contractor from proceeding with the contract as changed, provided that the State promptly and duly makes such provisional adjustments in payments or time for the direct costs of the work as changed as the State deems reasonable. The right of the contractor to dispute the contract price or time required for performance or both shall not be waived by its performing the work, provided however, that it follows the notice requirements for disputes and claims established by the contract or these rules.
3. Time Period for Claim. Within thirty days after receipt of a written change order under paragraph (1), unless such period is extended by the procurement officer in writing, the contractor shall file a notice of intent to assert claim for an adjustment. The requirement for timely written notice cannot be waived and shall be a condition precedent to the assertion of a claim.
4. Claim barred after final payment. No claim by the contractor for an adjustment hereunder shall be allowed if written notice is not given prior to final payment under this contract.
5. Claims not barred. In the absence of such a change order, nothing in this clause shall restrict the contractor's right to pursue a claim under the contract or for breach of contract.

## PRICE ADJUSTMENT FOR CONSTRUCTION CONTRACTS - §HAR 3-125-13.

1. Price adjustment. Any adjustment in contract price pursuant to a clause in this contract shall be made in one or more of the following ways;
  - a. By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
  - b. By unit prices specified in the contract or subsequently agree upon;
  - c. Whenever there is a variation in quantity for any work covered by any line item in breakdown costs provided by the contractor pursuant to contractual pre-work submittal requirements, by the procurement officer, at the procurement officer's discretion, adjusting the lump sum price proportionately;
  - d. In such other manner as the parties may mutually agree;
  - e. At the sole option of the procurement officer, by the costs attributable to the event or situation covered by the change, plus appropriate profit or fee; or
  - f. In the absence of agreement between the parties, by a unilateral determination by the procurement officer of the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126 (of the Hawaii Administrative Rules).
  
2. Determining the cost or credit. In determining the cost or credit to the State resulting from a change, the allowances for all overhead, extended overhead resulting from adjustments to contract time (including home office and field overhead) and profit combined, shall not exceed the percentages set forth below:
  - a. For the contractor, for any work performed by its own labor forces, fifteen per cent of the cost;
  - b. For each subcontractor involved, for any work performed by its own forces, fifteen per cent of the cost;
  - c. For the contractor or any subcontractor, for work performed by their subcontractors, ten per cent of the amount due the performing subcontractor.
  
3. Percentages for fee and overhead. Not more than three line item percentages for fee and overhead, not to exceed the maximum percentages shown above, will be allowed regardless of the number of tier subcontractors.

## PROMPT PAYMENT BY CONTRACTORS TO SUBCONTRACTORS – §HAR 3-125-23

1. Prompt payment clause. Any money, other than retainage, paid to a contractor shall be dispersed to subcontractors within ten days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and, upon final payment to the contractor, full payment to the subcontractor, including retainage, shall be

made within ten days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.

#### CHANGES TO THE GENERAL CONDITIONS

1. Under ARTICLE 1 – DEFINITIONS, insert the following:

“1.70 CONTRACTING OFFICER REPRESENTATIVE (COR): The Department of Defense Project Manager (PM).”

2. Under ARTICLE 2 - PROPOSAL REQUIREMENTS AND CONDITIONS, modify section 2.6 - SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING, by renaming section 2.6 - SUBSTITUTION BEFORE CONTRACT AWARD and deleting subsections 2.6.1, through 2.6.6 and substitute the following three new subsections and related paragraphs 2.6.1 through 2.6.3:

“2.6.1 For Substitutions after the Letter of Award is issued; refer to Section 6.3 SUBSTITUTION AFTER CONTRACT AWARD.

2.6.2 Unless specifically required otherwise in the contract documents, Offerors shall not submit products, materials, equipment, articles or systems for review or approval prior to submitting their Offers.

2.6.3 Offerors shall prepare their Offer forms based on the performance requirements of the materials, equipment, articles or systems noted on the drawings and specifications. If trade names, makes, catalog numbers or brand names are specified, Offerors shall infer that these items indicate the quality, style, appearance or performance of the material, equipment, article, or systems to be used in the project. The products and equipment of manufacturers listed throughout the specifications and other manufacturers are acceptable provided they meet or exceed the materials and construction requirements specified and are installed as specified.”

3. Under Article 6, delete subsections 6.3.2.4 and 6.3.3.

(S A M P L E)

Date: \_\_\_\_\_

Engineering Officer  
Department of Defense  
State of Hawaii  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

Dear Sir:

Subject: REQUEST FOR SUBSTITUTION

PROJECT TITLE & JOB NO.: \_\_\_\_\_

\_\_\_\_\_

In accordance with the requirements of the Special Provisions and as stated on the Specifications, we hereby submit for substitution, \_\_\_\_\_ sets of technical brochures and statement of variances for your review and approval for the item(s) shown below.

<u>ITEM</u>	<u>SPECIFIED BRAND</u>	<u>SUBSTITUTE BRAND</u>	<u>MODIFICATION/VARIANT FEATURES</u>
-------------	----------------------------	-----------------------------	--

I further certify that my request for substitution of the above item(s) has no other variant features.

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
NAME OF COMPANY AND TITLE

INSTRUCTIONS:

1. Use own letterhead
2. Submit one (1) original and two (2) copies
3. If no variant feature, indicate "None"

WEEKLY QUALITY CONTROL REPORT FORM

PROJECT: \_\_\_\_\_

PROJECT NO.: \_\_\_\_\_

WEEK OF: \_\_\_\_\_

WORK PERFORMED: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INSPECTION REPORT: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ATTACH ANY ADDITIONAL INFORMATION

DATE PREPARED: \_\_\_\_\_

INSPECTOR: \_\_\_\_\_

VERIFIED BY PRIME CONTRACTOR: \_\_\_\_\_

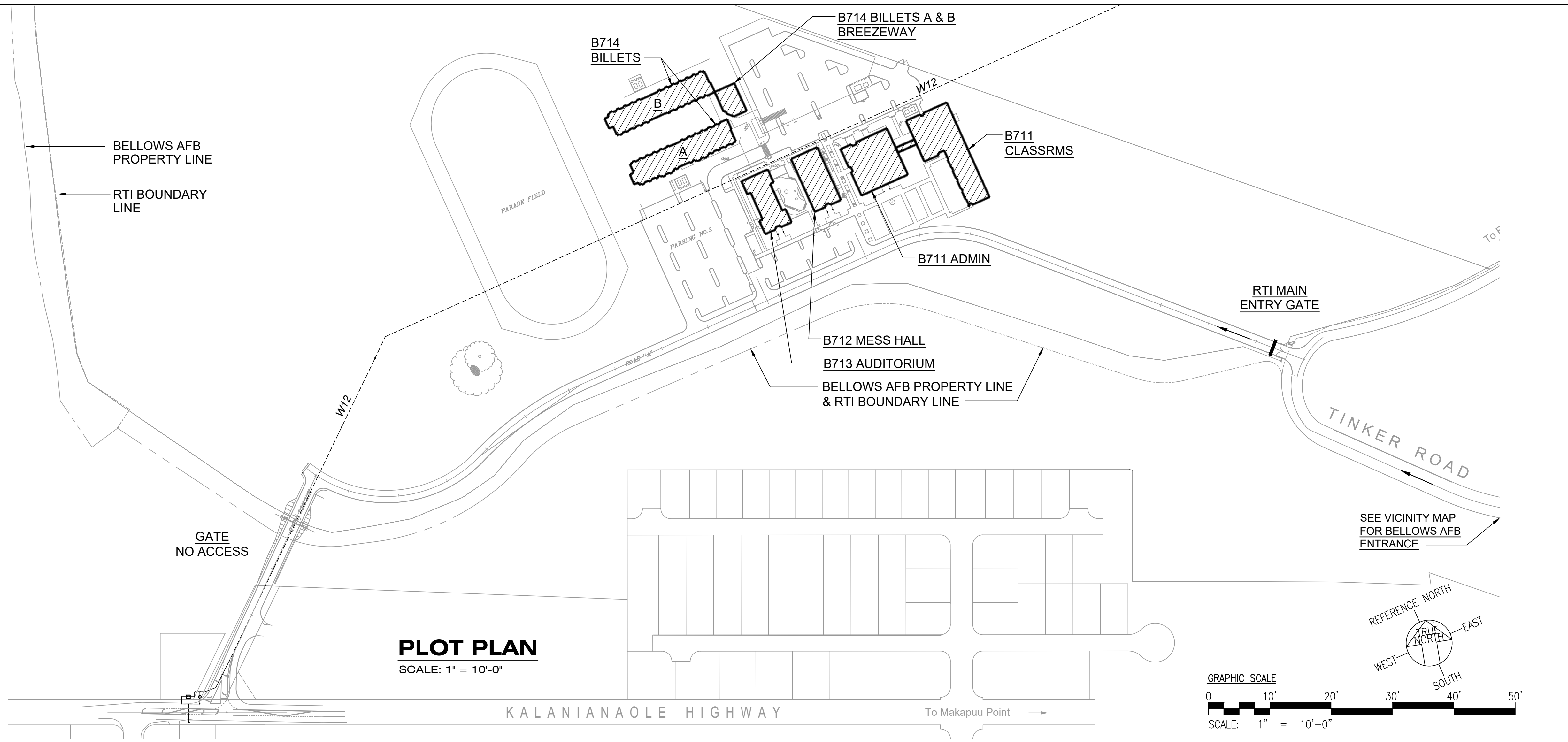
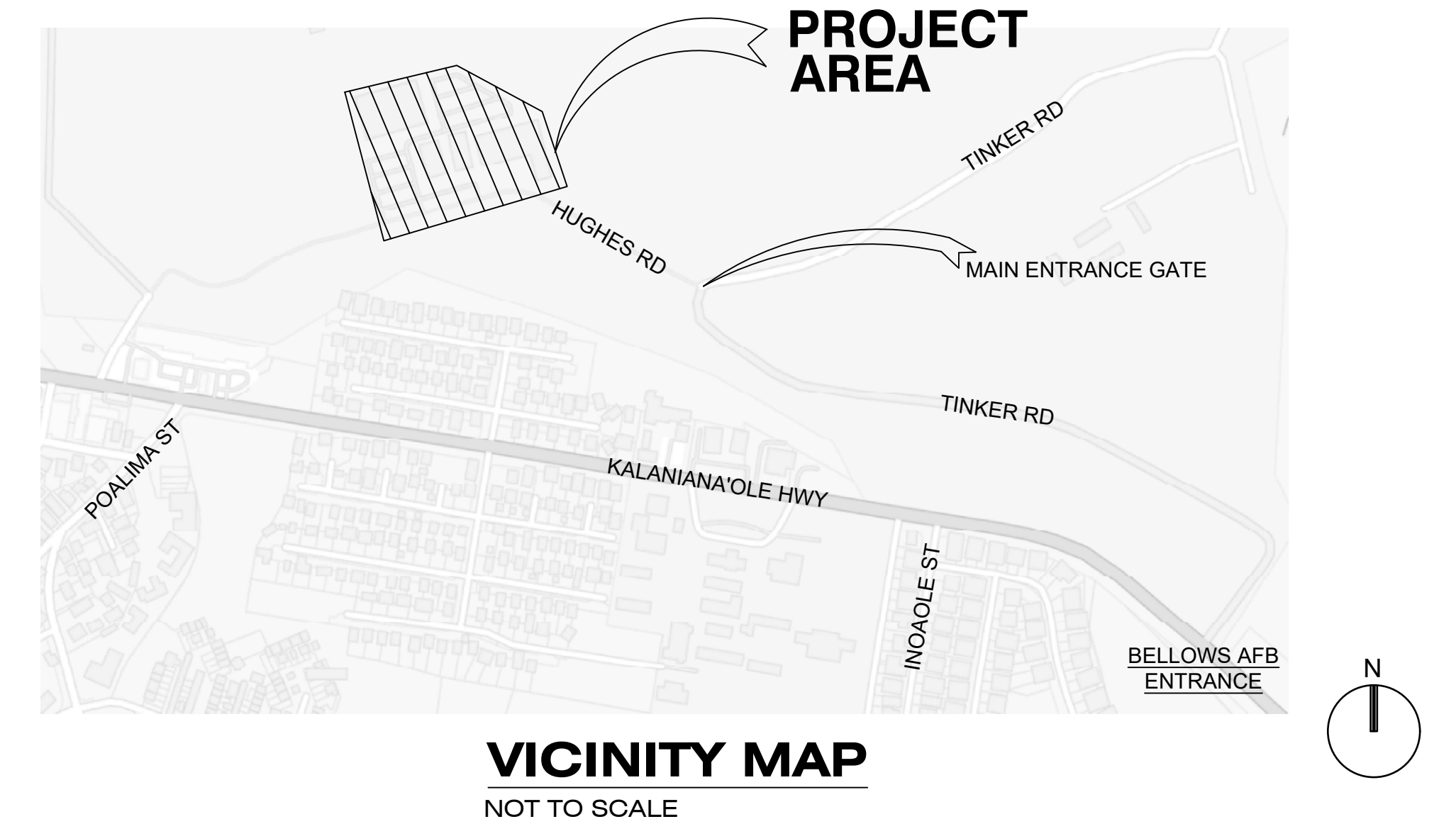
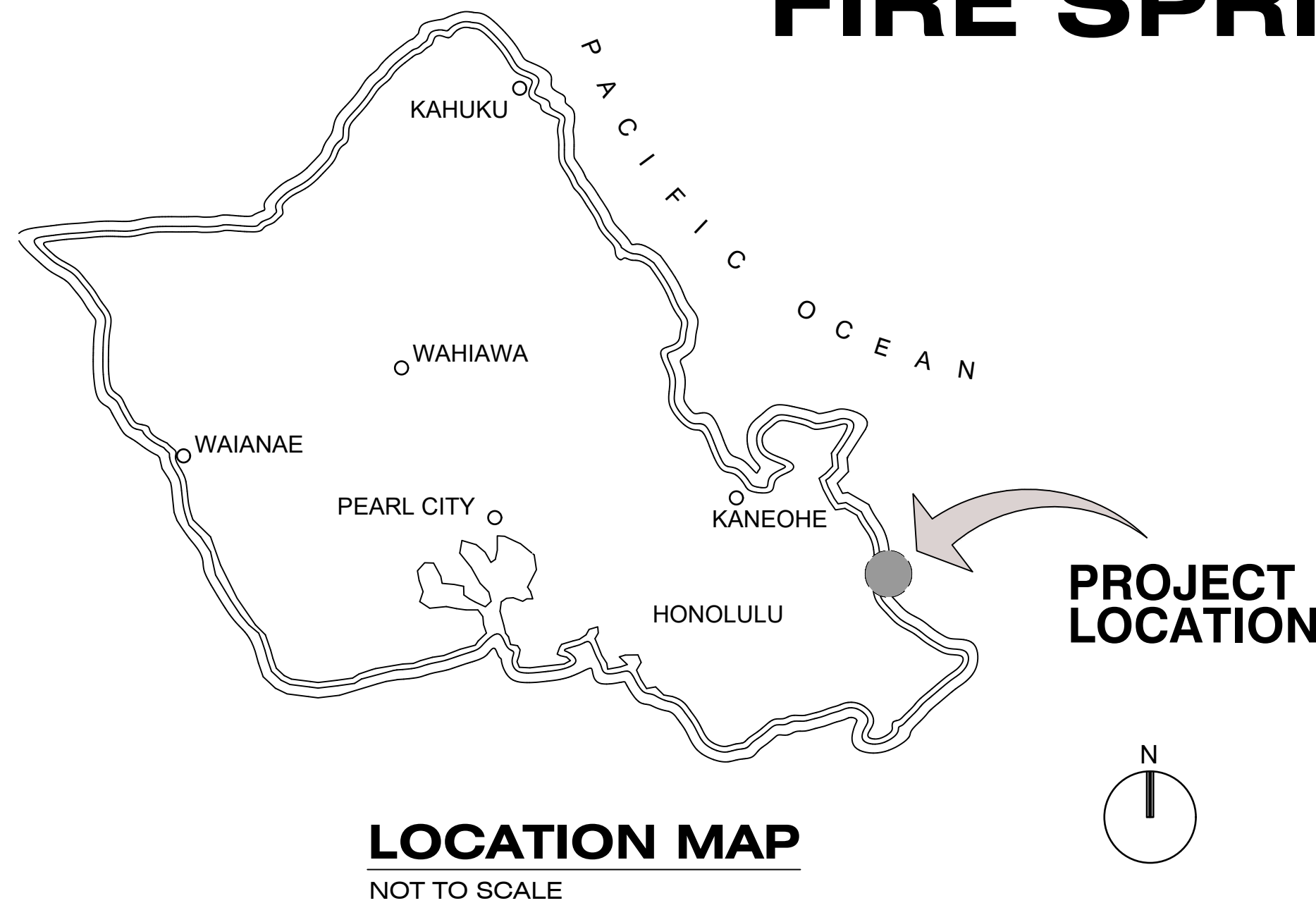
FEDERAL PROJECT NO. 15200006

STATE PROJECT NO: CA-202006-C

# BELLOWS 298TH REGIONAL TRAINING INSTITUTE FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT

OAHU, HAWAII  
TMK 4-1-015:001

FOR THE  
STATE OF HAWAII,  
DEPARTMENT OF DEFENSE,  
AND HAWAII ARMY NATIONAL GUARD



**PROJECT TEAM**

ARCHITECTS PACIFIC, INC. (ARCHITECTS)	938-C KAPAHULU AVENUE HONOLULU, HI 96816
COFFMAN ENGINEERS, INC. (FIRE PROTECTION ENGINEER)	745 FORT STREET, SUITE 400 HONOLULU, HI 96813
COFFMAN ENGINEERS, INC. (STRUCTURAL ENGINEER)	745 FORT STREET, SUITE 400 HONOLULU, HI 96813
J. UNO & ASSOCIATES, INC. (COST ESTIMATOR)	1210 WARD AVE, SUITE 204 HONOLULU, HI 96814

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

DEPARTMENT OF DEFENSE  
STATE OF HAWAII

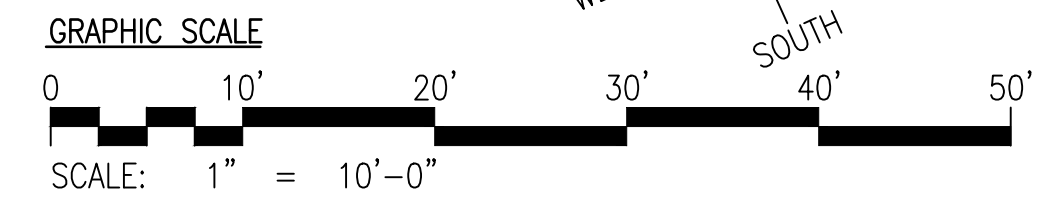
FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT

WAIMANALO, OAHU, HAWAII

TITLE SHEET, LOCATION MAP, VICINITY MAP, AND PLOT PLAN

COFFMAN ENGINEERS		JOB NO.	DRAWING NO.
DESIGNED BY: TW	CHECKED BY: RTB	CA-202006-C	G001
DRAWN BY: TW	APPROVED BY: JTH	DATE	SHEET 01
SCALE: AS NOTED		AUG 03, 2023	OF 45 SHEETS

License Exp: 04/30/2024





## INDEX OF DRAWINGS

SHT NO.	DWG NO.	SHEET CONTENTS
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4	A102	MESS HALL - REFLECTED CEILING PLAN
5	A103	AUDITORIUM - PARTIAL REFLECTED CEILING PLAN
6	A104	AUDITORIUM - PARTIAL REFLECTED CEILING PLAN
7	A105	ADMINISTRATION - REFLECTED CEILING PLAN
8	A106	BILLETS A FIRST FLOOR AND BILLETS A & B BREEZEWAY - REFLECTED CEILING PLAN
9	A107	BILLETS A SECOND FLOOR - REFLECTED CEILING PLAN
10	A401	CLASSROOM - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND PARTIAL EXTERIOR ELEVATION
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12	A403	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - AUDITORIUM
13	A404	ADMINISTRATION - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND PARTIAL EXTERIOR ELEVATION
14	A405	BILLETS A - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND EXTERIOR ELEVATION
15	A501	CLASSROOM - CLASSROOM BUILDING SECTIONS
16	A502	MESS HALL - BUILDING SECTIONS
17	A503	AUDITORIUM - BUILDING SECTIONS
18	A504	ADMINISTRATION - BUILDING SECTIONS
19	A505	BILLETS - BUILDING SECTIONS
20	A601	CLASSROOM - WALL SECTIONS
21	A602	WALL SECTIONS
22	A603	WALL SECTIONS
23	A604	WALL SECTIONS, DETAILS
24	A605	WALL SECTIONS, DETAILS
25	A606	ADMINISTRATION - WALL SECTIONS
26	A607	WALL SECTIONS
27	A608	WALLS SECTIONS
28	A609	EXTERIOR STAIRS SECTION
29	A801	SOFFIT DETAILS
30	A802	SOFFIT DETAILS
31	F001	FIRE ALARM NOTES, SYMBOLS, AND ABBREVIATIONS
32	FX101	CLASSROOM - FIRE SPRINKLER FLOOR PLAN
33	FX102	ADMINISTRATION - FIRE SPRINKLER FLOOR PLAN
34	FX103	MESS HALL - FIRE SPRINKLER FLOOR PLAN
35	FX104	AUDITORIUM - FIRE SPRINKLER FLOOR PLAN
36	FX105	AUDITORIUM - FIRE SPRINKLER FLOOR PLAN
37	FX106	BILLETS A FIRST FLOOR AND BILLETS A&B BREEZEWAY- FIRE SPRINKLER FLOOR PLAN
38	FX107	BILLETS A SECOND FLOOR - FIRE SPRINKLER FLOOR PLAN
39	FX401	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - CLASSROOM
40	FX402	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - ADMINISTRATION - CLASSROOM
41	FX403	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - MESS HALL
42	FX404	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - AUDITORIUM
43	FX405	ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - BILLETS A
44	FX501	FIRE SPRINKLER DETAILS
45	FX502	FIRE SPRINKLER DETAILS

## PROJECT SCOPE OF WORK

**PROJECT SCOPE AND PURPOSE:**  
 THE PROJECT WORK SCOPE INCLUDES WORK INDICATED IN THESE CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS:

**A. COMPLETE REPLACEMENT OF FIVE (5) EXISTING WET PIPE FIRE SPRINKLER SYSTEMS, AND THE INSTALLATION OF ONE (1) AUTOMATIC AIR VENT ONTO EACH NEW FIRE SPRINKLER DISTRIBUTION PIPING SYSTEM WITH A NITROGEN INERTING SYSTEM AT THE FOLLOWING BUILDINGS:**

1. B711 ADMINISTRATION
2. B711 CLASSROOMS
3. B712 MESS HALL
4. B713 AUDITORIUM
5. B714 BILLETS A, INCLUDING PHYSICAL FITNESS AND LAUNDRY AREA

FOR ALL BUILDINGS, PROVIDE CONTINUOUS FIRE WATCH AS REQUIRED IN CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE HONOLULU FIRE DEPARTMENT.

**B. THE NITROGEN INERTING SYSTEM IS A RISK MITIGATION COMPONENT USED TO LIMIT AIR BUBBLES FROM BECOMING ENTRAPPED IN THE EXISTING INTERIOR SPRINKLER DISTRIBUTION PIPING SYSTEM. NITROGEN WILL BE INTRODUCED INTO THE EMPTY FIRE SPRINKLER RISER AND PIPING SYSTEM PRIOR TO BEING FILLED WITH WATER.**

**C. NEW CONCRETE PADS WILL BE PROVIDED FOR THE NEW, EXTERIOR FIRE SPRINKLER RISERS FOR EACH BUILDING.**

**D. WORK ALSO INCLUDES THE REMOVAL AND REPAIR OF EXISTING HARD AND DROP CEILING SYSTEMS IN AREAS INDICATED ON THE DRAWINGS FOR THE INSTALLATION OF THE NEW AUTOMATIC SPRINKLER SYSTEMS, INCLUDING SPRINKLER HEADS, PIPING, VALVES HANGARS WITHIN EACH BUILDING.**

## PROJECT INFORMATION

LOCATION: 711 TINKER RD, WAIMANALO, HI, 96795  
 TMK: 4-1-015:001  
 SITE: WAIMANALO, OAHU, HAWAII


	<u>OCCUPANCY GROUP</u>	<u>STORIES/HEIGHT OF BUILDING</u>
CLASSROOM	B - BUSINESS	1 STORY/27'-5"
MESS HALL	A2 - ASSEMBLY	1 STORY/22'-3"
AUDITORIUM	A1- ASSEMBLY	1 STORY/21'-6"
ADMINISTRATION	B - BUSINESS	1 STORY/29'-9"
BILLETS A & B	R3 - RESIDENTIAL	2 STORIES/32'-5"

	<u>IS BUILDING SPRINKLERED</u>	<u>TYPE OF CONSTRUCTION</u>
CLASSROOM	YES	TYPE V
MESS HALL	YES	TYPE V
AUDITORIUM	YES	TYPE V
ADMINISTRATION	YES	TYPE V
BILLETS A & B	YES	TYPE V

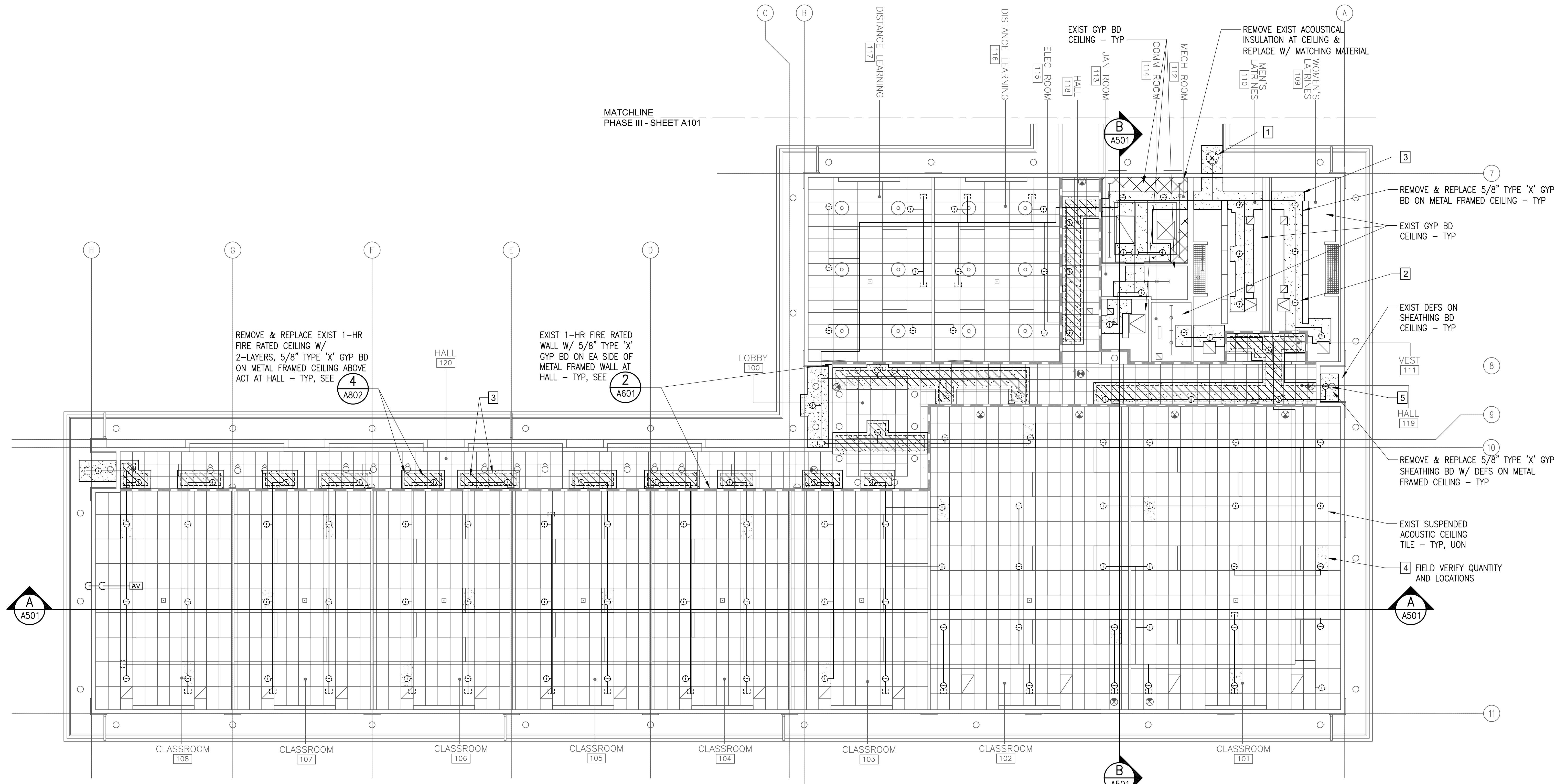
**REFERENCE CODES**

NFPA 1 FIRE CODE, 2018 EDITION WITH CITY AND COUNTY OF HONOLULU AMENDMENTS

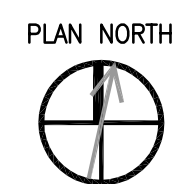
NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2016

REV NO.	SYM	DESCRIPTION	SHT. OF ____	DATE	APPROVED: DDO ADMINISTRATOR
					
DEPARTMENT OF DEFENSE STATE OF HAWAII					
FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT					
WAIMANALO, OAHU, HAWAII					
INDEX OF DRAWINGS AND NOTES, PROJECT SCOPE, AND PROJECT INFORMATION					
COFFMAN ENGINEERS			JOB NO. CA-202006-C	DRAWING NO. <b>G002</b>	
DESIGNED BY: TW		CHECKED BY: RTB		DATE	
DRAWN BY: TW		APPROVED BY: JTH		SHEET 02	
SCALE: AS NOTED			AUG 03, 2023		OF 45 SHEETS
License Exp: 04/30/2024					

Date: PlotSet: 05\_Aug\_2023 - 12:51pm  
File Name: \\projap\Projects\21000.0000 - Fire Sprinkler System\4\_DRAWINGS\Arch\A101\_classroom-RCP.dwg



**1 CLASSROOM - REFLECTED CEILING PLAN**  
 A101 SCALE: 1/8" = 1'-0" (FLOOR PLAN SHOWN IS ROTATED 90 DEGREES CLOCKWISE)

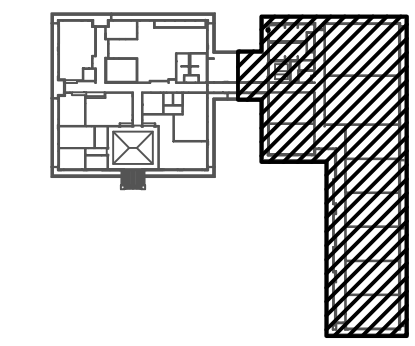
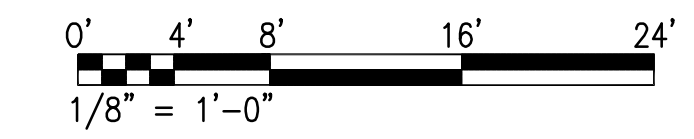


**NEW WORK NOTES**

- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 9 SF (36"x 36") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 24" - 36" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 16 SF (48" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.

**LEGEND**

- GYP BD CEILINGS ABOVE ACT AT HALLS: 2 LAYERS 5/8" W/ 6" (MIN) OVERLAP OF FACE LAYER TO BASE LAYER ON MET FRAMING
- FACE LAYER: 36"-42" WIDE STRIP
- BASE LAYER: 24"-30" WIDE STRIP
- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 30"-36" WIDE STRIP
- GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 30"-36" WIDE STRIP



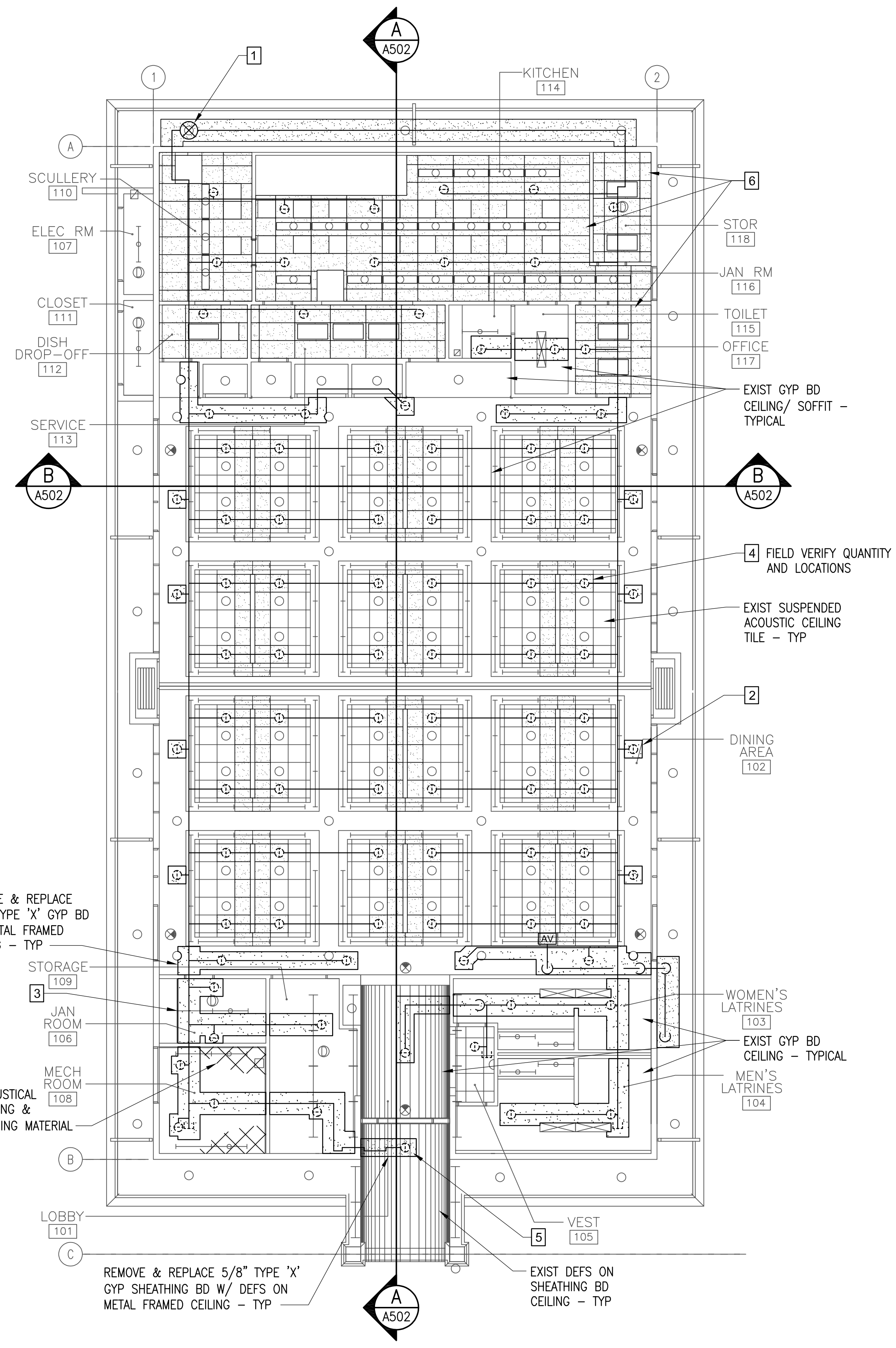
**KEY PLAN - CLASSROOM**

REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

		DEPARTMENT OF DEFENSE STATE OF HAWAII	
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT			
WAIMANALO, OAHU, HAWAII			
<b>CLASSROOM - REFLECTED CEILING PLAN</b>			
ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG	CHECKED BY: DK APPROVED BY: DK	JOB NO. CA-202006-C	DRAWING NO. <b>A101</b> SHEET <b>3</b> OF 45 SHEETS
SIGNATURE  License Exp: 04/30/2024		DATE AUG 03, 2023	SCALE: AS NOTED

Date Plotted: Sat, 05 Aug 2023 - 1:01pm  
File Name: \\projap\Projects\21000.0000\Projects\21000.0000\Drawings\Arch\A102\_mess hall-RCP.dwg



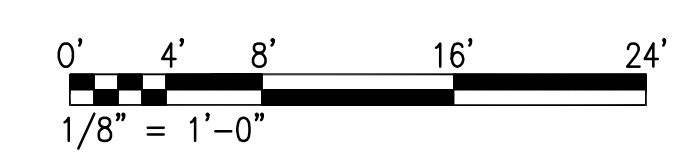
**NEW WORK NOTES**


- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 4 SF (24"x 24") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 24" - 30" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 4 SF (24" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.
- 6 REMOVE AND REPLACE EXISTING SUSPENDED CEILING TILES THROUGHOUT THE KITCHEN AREA WITH NEW ACT WITH A WASHABLE SURFACE. EXISTING ACT GRID TO BE REPAIRED AND PATCHED AS NECESSARY. PAINT GRID TO MATCH EXISTING ACT GRID COLOR.

**LEGEND**

- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP
- GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP

**1 MESS HALL - REFLECTED CEILING PLAN**  
SCALE: 1/8" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
					
DEPARTMENT OF DEFENSE STATE OF HAWAII					
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT					
WAIMANALO, OAHU, HAWAII					
MESSHALL - REFLECTED CEILING PLAN					
ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C		DRAWING NO. A102	
DESIGNED BY: CEI	CHECKED BY: DK	DATE		SHEET 4	
DRAWN BY: GG	APPROVED BY: DK	DATE		SHEET 4	
SIGNATURE License Exp: 04/30/2024		SCALE: AS NOTED		AUG 03, 2023	
OF 45 SHEETS					

REMOVE & REPLACE 5/8" TYPE 'X' GYP SHEATHING BD W/ DEFS ON METAL FRAMED CEILING - TYP

REMOVE & REPLACE 5/8" TYPE 'X' GYP BD ON MET FRAMED CEILING - TYP

EXIST GYP BD CEILING/ SOFFIT - TYPICAL

EXIST DEFS ON SHEATHING BD CEILING - TYP

MATCHLINE SHEET A104

A503

EXTERIOR  
XXX  
5579 SF

STOR  
42 SF

CIRC  
XXX  
57 SF

LIFT  
104  
20 SF

STAGE  
110  
829 SF

CIRC  
XXX  
819 SF

STOR  
43 SF

CIRC  
XXX  
74 SF

STOR  
113  
20 SF

D503

C503

RAMP  
XXX  
95 SF

SEATING  
102  
1658 SF

A503

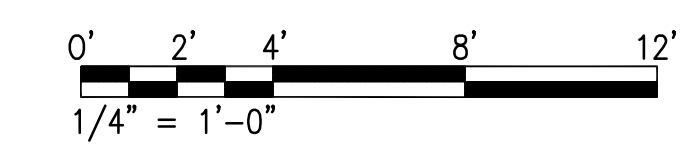
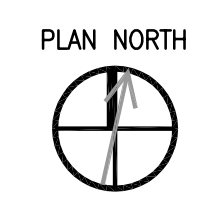
**NEW WORK NOTES**

- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 4 SF (24"x 24") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 24" - 30" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 6.25 SF (30" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.
- 6 INSTALL 18" SQ CEILING ACCESS PANEL IN EXISTING GYP BD CEILING.
- 7 REMOVE EXISTING WALL/ CEILING COVERING AT SEATING AREA SLOPED CEILING AND INSTALL NEW WALL/ CEILING COVERING OF AN 'IN KIND' TYPE, COLOR AND STYLE. SEE SPECIFICATION SECTION 09720 - WALL/ CEILING COVERINGS FOR ADDITIONAL INFORMATION.

**LEGEND**

- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP
  - GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
  - 30" WIDE STRIP

**1 AUDITORIUM - PARTIAL REFLECTED CEILING PLAN**  
SCALE: 1/4" = 1'-0"



**KEY PLAN - AUDITORIUM**

REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII					
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT					
WAIMANALO, OAHU, HAWAII					
AUDITORIUM - PARTIAL REFLECTED CEILING PLAN					
ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C		DRAWING NO. <b>A103</b>	
DESIGNED BY: CEI	CHECKED BY: DK	DATE	SHEET <b>5</b>		
DRAWN BY: GG	APPROVED BY: DK	DATE AUG 03, 2023	OF 45 SHEETS		
SCALE: AS NOTED		FILE DRAWER FOLDER			

Date Plotted: Sat, 05 Aug 2023, 1:07:00 PM  
 File Name: \\projap\Projects\21000.0000\Projects\21010.0000\Drawings\Arch\A103\_Auditorium-RCPI.dwg

MATCHLINE SHEET A103

5  
EXIST DEFS ON SHEATHING BD CEILING - TYP

7

B  
A503

2  
REMOVE EXIST ACOUSTICAL INSULATION AT CEILING & REPLACE W/ MATCHING MATERIAL

EXIST GYP BD CEILING/ SOFFIT-TYPICAL

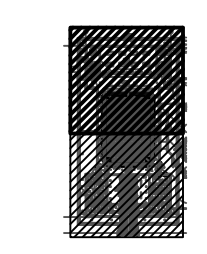
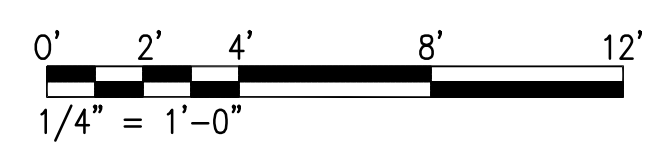
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REMOVE & REPLACE 5/8" TYPE 'X' GYP BD ON METAL FRAMED CEILING - TYP

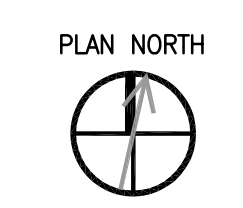
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5

REMOVE & REPLACE 5/8" TYPE 'X' GYP SHEATHING BD W/ DEFS ON METAL FRAMED CEILING - TYP



1  
A104  
**AUDITORIUM - PARTIAL REFLECTED CEILING PLAN**  
SCALE: 1/4" = 1'-0"



**KEY PLAN - AUDITORIUM**

Date: PlotSet: 05 Aug 2023 - 1:40pm  
File Name: \\projap\Projects\21000.0000 - Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A104\_auditorium-RCP2.dwg

A  
A503

B  
A503

A  
A502

SEATING  
102  
1658 SF

RAMP  
XXX  
95 SF

ARC  
XXX  
23 SF

JAN  
106  
58 SF

VENDOR  
107

MECH  
105  
67 SF

LOBBY  
101  
574 SF

LUNGE  
109

WOMEN  
103  
188 SF

MAN  
104  
208 SF

4  
FIELD VERIFY QUANTITY AND LOCATIONS

**NEW WORK NOTES**

- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 4 SF (24"x 24") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 24" - 30" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 6.25 SF (30" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.
- 6 INSTALL 18" SQ CEILING ACCESS PANEL IN EXISTING GYP BD CEILING.
- 7 REMOVE EXISTING WALL/ CEILING COVERING AT SEATING AREA SLOPED CEILING AND INSTALL NEW WALL/ CEILING COVERING OF AN 'IN KIND' TYPE, COLOR AND STYLE. SEE SPECIFICATION SECTION 09720 - WALL/ CEILING COVERINGS FOR ADDITIONAL INFORMATION.

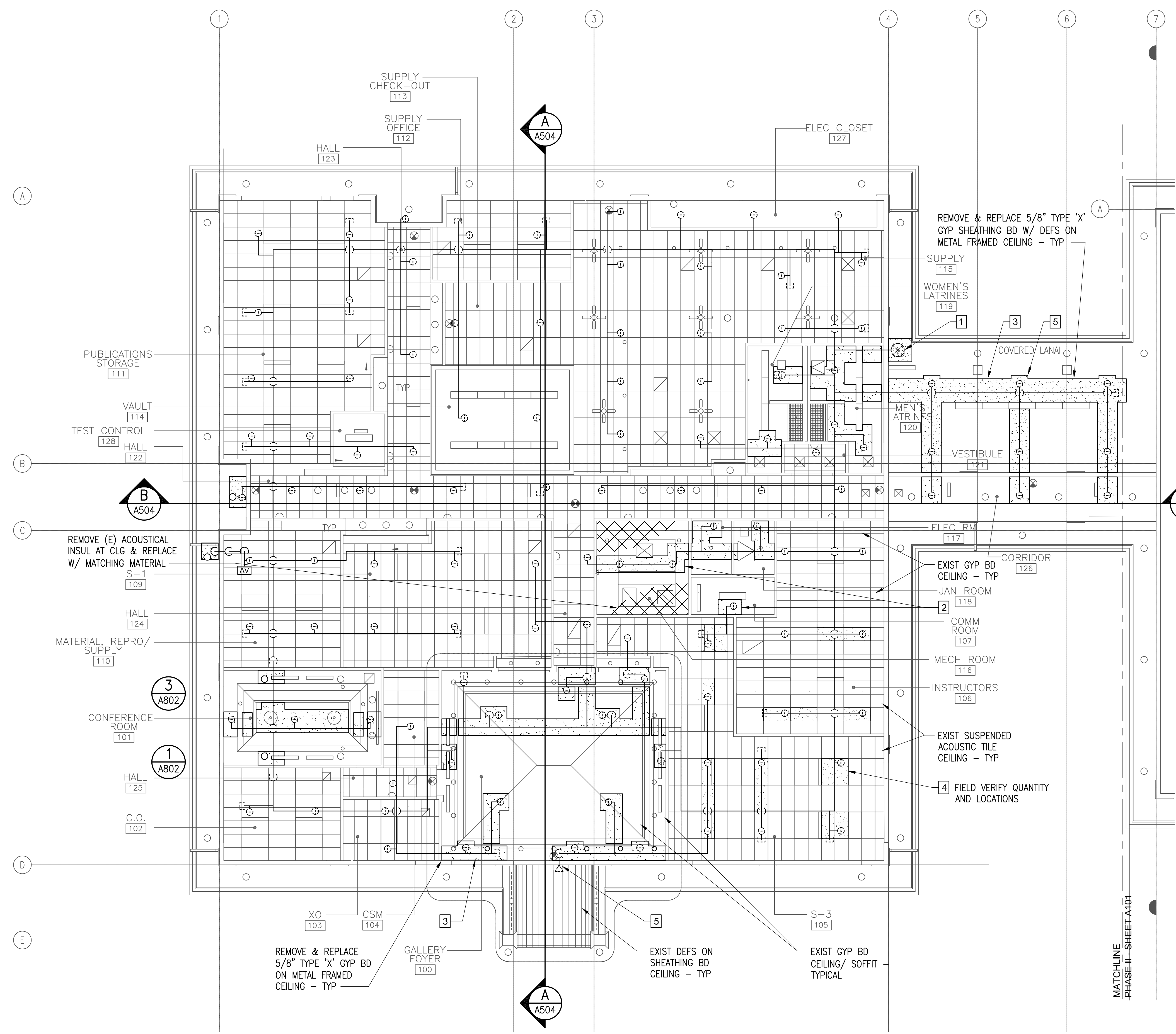
**LEGEND**

- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP
- GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 30" WIDE STRIP

REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<p>DEPARTMENT OF DEFENSE STATE OF HAWAII</p> <p>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</p> <p>WAIMANALO, OAHU, HAWAII</p> <p>AUDITORIUM - PARTIAL REFLECTED CEILING PLAN</p>					
		<p>ARCHITECTS PACIFIC, INC.</p>		JOB NO.	DRAWING NO.
DESIGNED BY:	CHECKED BY:	DATE		CA-202006-C	A104
DRAWN BY:	APPROVED BY:				SHEET 6
SIGNATURE					
License Exp: 04/30/2024					
SCALE: AS NOTED				AUG 03, 2023	OF 45 SHEETS

FILE DRAWER FOLDER

Date Plotted: Sat, 05 Aug 2023, 1:41pm  
File Name: \\projap\Projects\21000.0000 - Fire Sprinkler System\4\_DRAWINGS\Arch\A105\_admin-RCF.dwg



**NEW WORK NOTES**

- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER. SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 6.25 SF (30"x 30") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 30" - 42" WIDE STRIP OF EXISTING GYP BD/ GYP SHEATHING CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 6.25 SF (30" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.

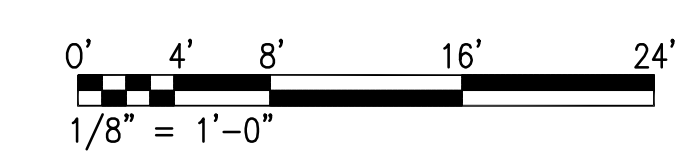
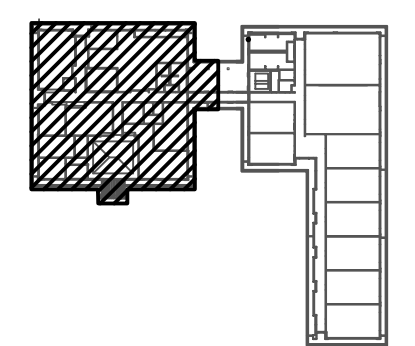
**LEGEND**

- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 30"-42" WIDE STRIP
- GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 30"-42" WIDE STRIP

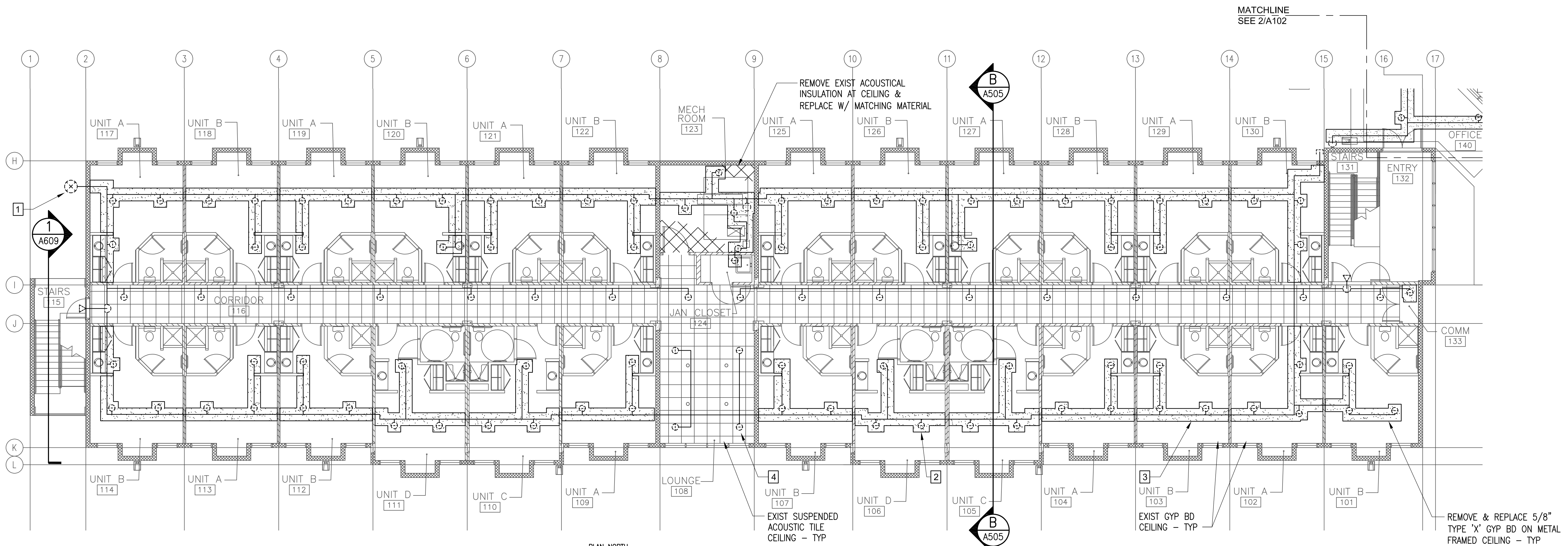
**1 ADMINISTRATION - REFLECTED CEILING PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN - ADMINISTRATION**



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT  WAIMANALO, OAHU, HAWAII  ADMINISTRATION - REFLECTED CEILING PLAN					
ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C		DRAWING NO. A105	
DESIGNED BY: CEI	CHECKED BY: DK	DATE:		SHEET 7	
DRAWN BY: GG	APPROVED BY: DK	DATE:		SHEET 7	
SIGNATURE:		SCALE: AS NOTED		DATE: AUG 03, 2023	
License Exp: 04/30/2024		OF 45 SHEETS		FILE DRAWER FOLDER	



**1** **BILLET A FIRST FLOOR - REFLECTED CEILING PLAN**  
 SCALE: 1/8" = 1'-0"

**WALL LEGEND**

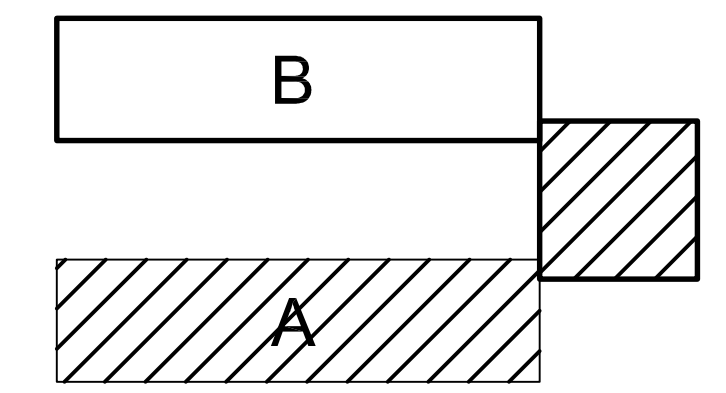
- 8" CMU WALL W/ CONC BASE @ EXTERIOR WALL
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS @ 24" OC ON 8" CMU WALL (AT LATRINES; CT WAINSCOT ON 5/8" CEMENT BOARD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" W.R. GYP BD ABOVE WAINSCOT). **4** A606
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS (6" WHERE OCCURS) @ 24" OC (AT LATRINES AND BATHS; CT WAINSCOT ON 5/8" CEMENT BOARD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" W.R. GYP BD ABOVE WAINSCOT). **2** A606
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS @ 24" OC W/ INSULATION (STC 54) (AT LATRINES AND BATHS; CT WAINSCOT ON 5/8" CEMENT BOARD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" TYPE "X" W.R. GYP BD ABOVE WAINSCOT). **3** A606

**NEW WORK NOTES**

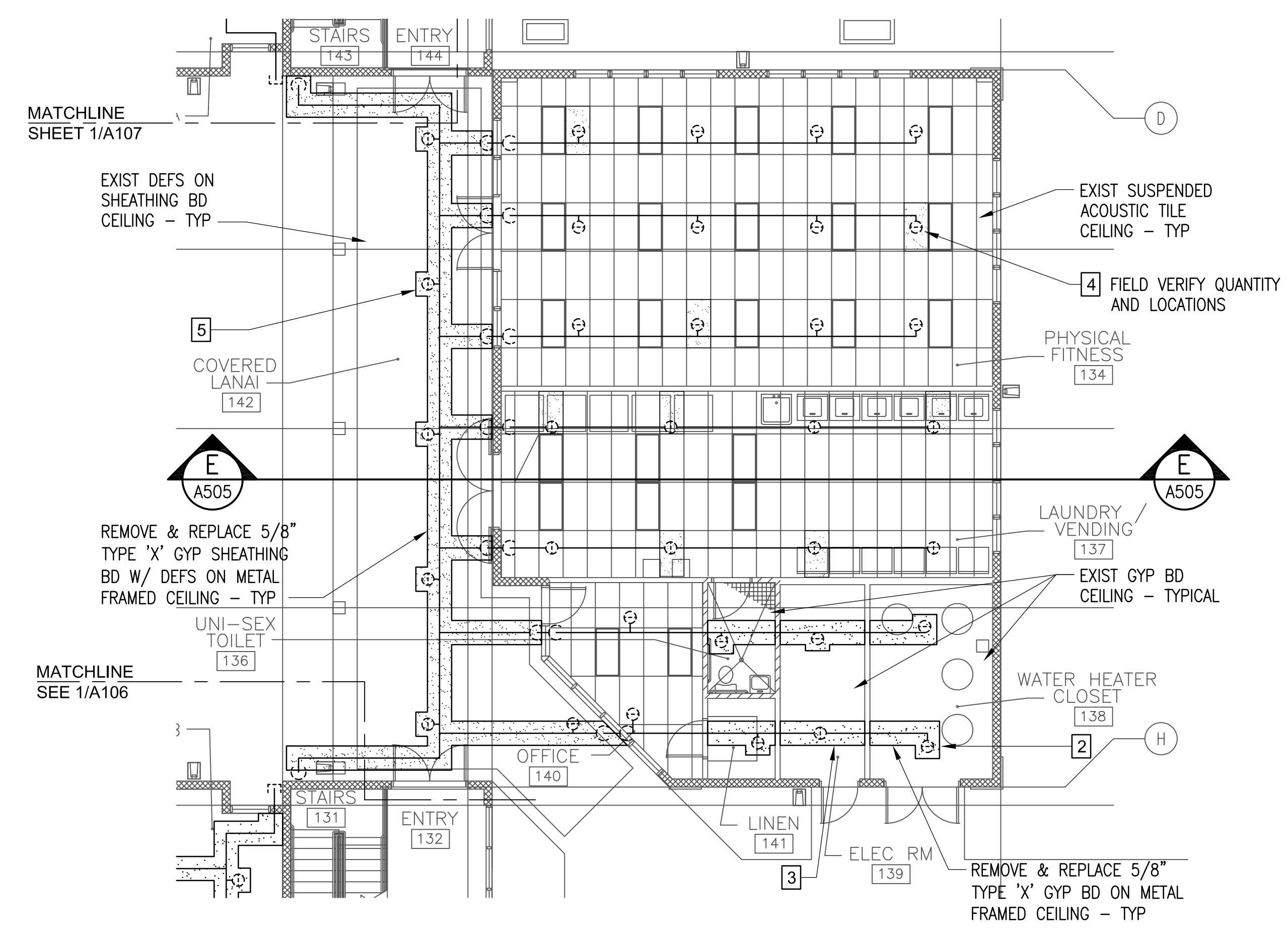
- 1** INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2** REPAIR AND PATCH APPROXIMATELY 4 SF (24"x24") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3** REPAIR AND PATCH APPROXIMATELY 24" - 30" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4** REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5** REPAIR AND PATCH APPROXIMATELY 4 SF (24" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.

**LEGEND**

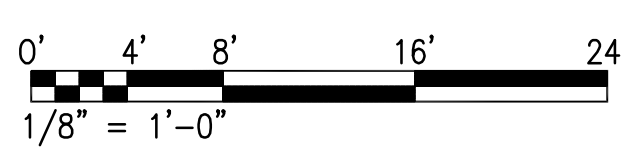
- GYP BD CEILINGS: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP
- GYP SHEATHING BD: 1 LAYER 5/8" TYPE 'X' ON MET FRAMING
- 24"-30" WIDE STRIP



**KEY PLAN - BILLET A&B FIRST FLOOR**



**2** **BILLET A&B BREEZEWAY (GYM & LAUNDRY AREA) - REFLECTED CEILING PLAN**  
 SCALE: 1/8" = 1'-0"



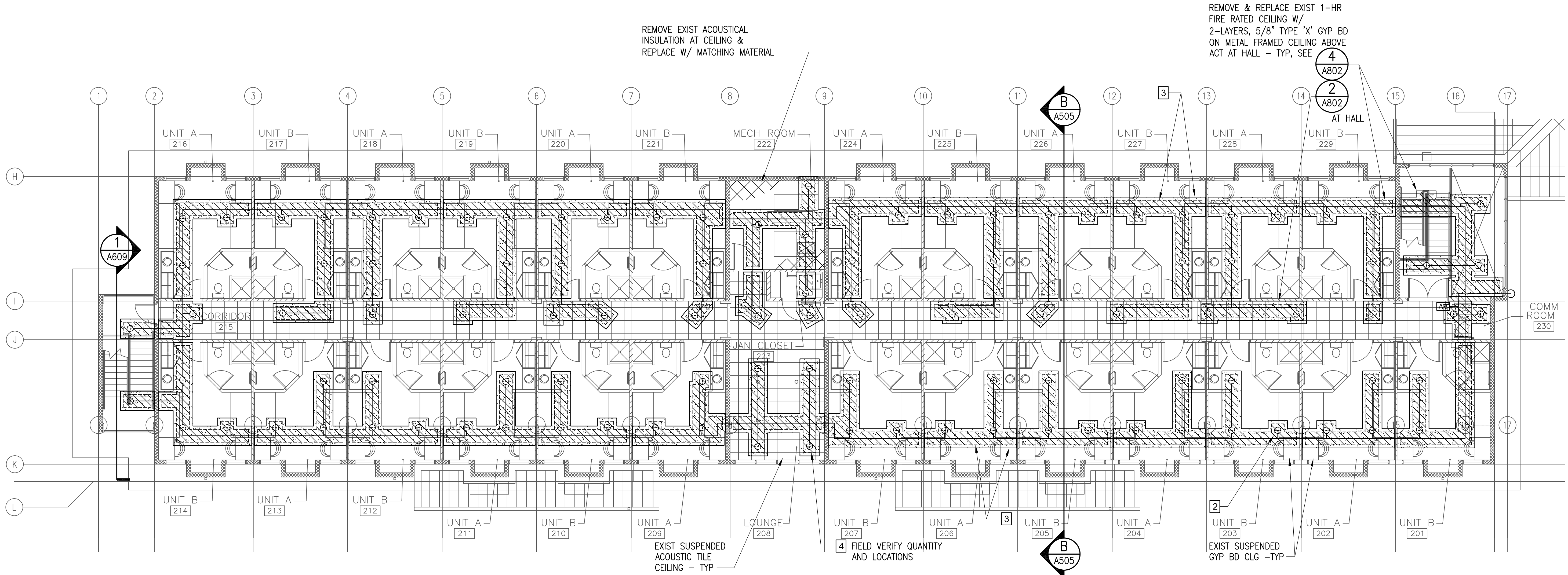
REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

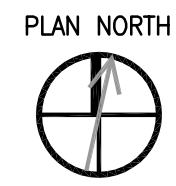
		DEPARTMENT OF DEFENSE STATE OF HAWAII	
<b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>			
WAIMANALO, OAHU, HAWAII			
<b>BILLET A FIRST FLOOR - REFLECTED CEILING PLAN</b>			
ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG	CHECKED BY: DK APPROVED BY: DK	JOB NO.: CA-202006-C DATE:	DRAWING NO.: <b>A106</b> SHEET: <b>8</b> OF 45 SHEETS
SIGNATURE: License Exp: 04/30/2024		SCALE: AS NOTED	AUG 03, 2023

Date Plotted: Sat, 05 Aug 2023, 12:57pm  
 File Name: \\projap\Projects\21000.0000 - Projects\21000.0000 - Fire Sprinkler System\4\_DRAWINGS\Arch\A106\_billetA-1st\_fr\_RCP.dwg

Date Plotted: Sat, 05 Aug 2023 - 1:52pm  
 File Name: \\projap\Projects\21000.0000\Projects\21010.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\A108\_billetA-2nd flr RCP.dwg



**1 A108 BILLET A SECOND FLOOR - REFLECTED CEILING PLAN**  
 SCALE: 1/8" = 1'-0"



**NEW WORK NOTES**

- 1 INSTALL NEW CONCRETE SLAB PAD AT REPLACED FIRE SPRINKLER RISER, SEE FIRE SPRINKLER DRAWINGS
- 2 REPAIR AND PATCH APPROXIMATELY 4 SF (24"x 24") OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 3 REPAIR AND PATCH APPROXIMATELY 24" - 42" WIDE STRIP OF EXISTING GYP BD CEILING ON METAL FRAMING AT REPLACED FIRE SPRINKLER WATER LINES, TYP. MATCH EXISTING GYP BD THICKNESS AND TYPE. SEE FS DRAWINGS.
- 4 REPLACE OR REPAIR AND PATCH EXISTING SUSPENDED CEILING TILE AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING CEILING TILE SIZE, STYLE, TYPE AND THICKNESS. SEE FS DRAWINGS.
- 5 REPAIR AND PATCH APPROXIMATELY 4 SF (24" SQ) OF EXISTING DEFS ON GYP SHEATHING AT REPLACED FIRE SPRINKLER HEAD, TYP. MATCH EXISTING DEFS AND GYP SHEATHING THICKNESS AND TYPE. SEE FS DRAWINGS.

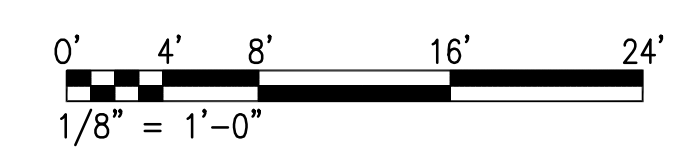
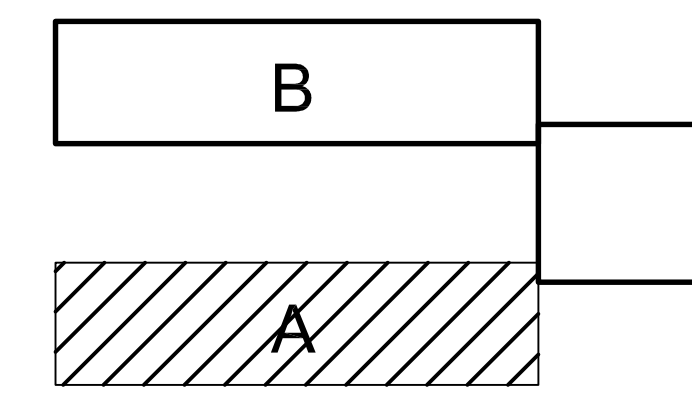
**LEGEND**

GYP BD CEILINGS, INCLUDING ABOVE ACT AT HALL, 2 LAYERS  
 5/8" W/ MIN 6" OVERLAP OF FACE LAYER TO BASE LAYER ON MET FRAMING.

- FACE LAYER: 36"-42" WIDE STRIP
- BASE LAYER: 24"-30" WIDE STRIP

**WALL LEGEND**

- 8" CMU WALL W/ CONC BASE @ EXTERIOR WALL
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS @ 24" OC ON 8" CMU WALL (AT LATRINES; CT WAINSCOT ON 5/8" CEMENT BOARD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" W.R. GYP BD ABOVE WAINSCOT). **4 A606**
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS (6" WHERE OCCURS) @ 24" OC (AT LATRINES AND BATHS; CT WAINSCOT ON 5/8" CEMENT BOARD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" W.R. GYP BD ABOVE WAINSCOT). **2 A606**
- 5/8" TYPE "X" GYP BD ON 3 5/8" METAL STUDS @ 16" OC. 5/8" TYPE "X" W.R. GYP BD ABOVE WAINSCOT). **3 A606**



**KEY PLAN - BILLET A & B SECOND FLOOR**

REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

DRAKE D. KAU  
 LICENSED PROFESSIONAL ARCHITECT  
 No. 18616  
 HAWAII, U.S.A.

DEPARTMENT OF DEFENSE  
 STATE OF HAWAII

FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT

WAIMANALO, OAHU, HAWAII

**BILLET A SECOND FLOOR - REFLECTED CEILING PLAN**

ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C	DRAWING NO. <b>A107</b>
DESIGNED BY: CEI	CHECKED BY: DK	DATE	SHEET <b>9</b>
DRAWN BY: GG	APPROVED BY: DK	DATE	OF 45 SHEETS

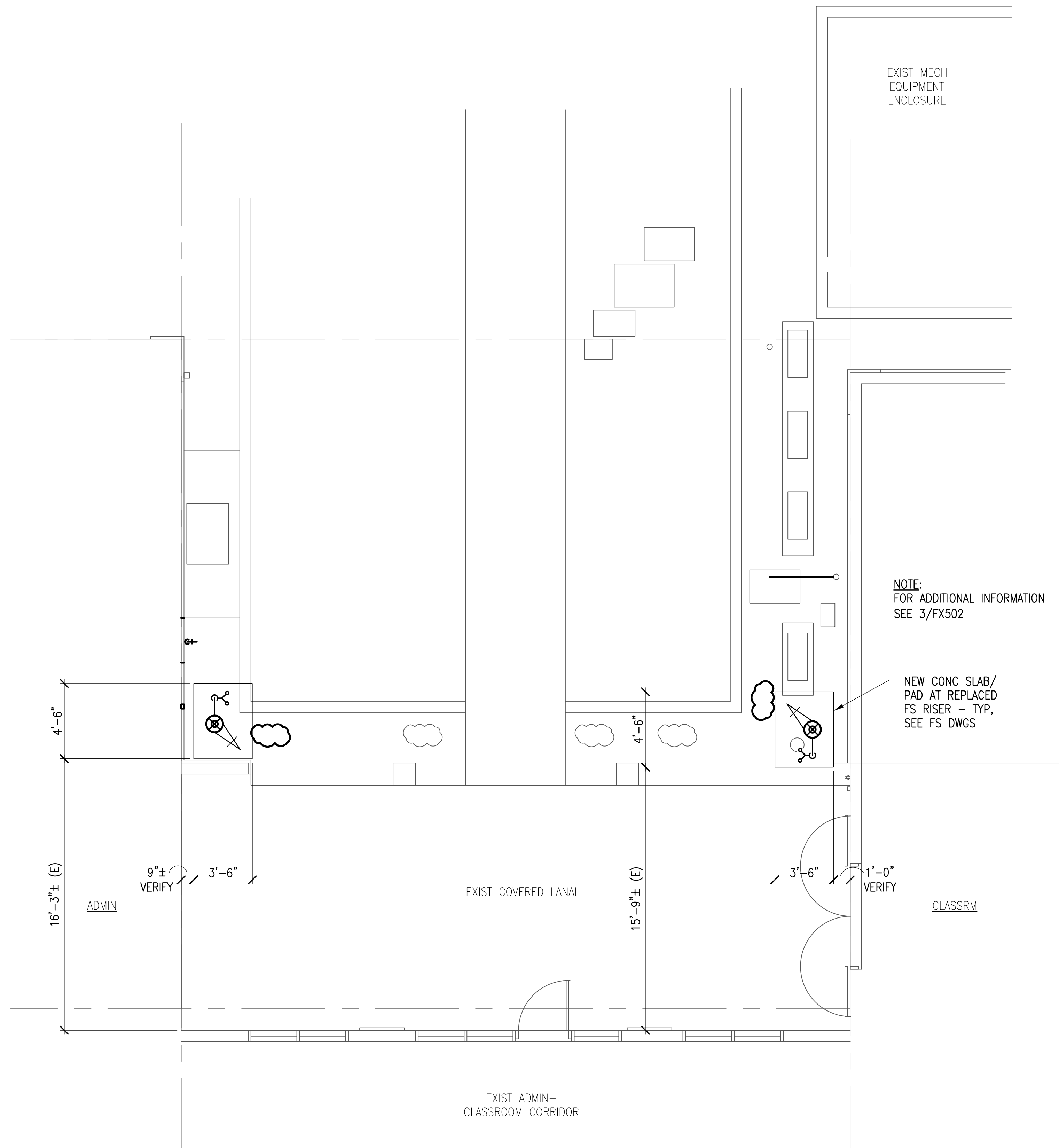
This work was prepared by me or under my supervision, and construction of this project will be under my observation.

SIGNATURE: *[Signature]*  
 License Exp: 04/30/2024

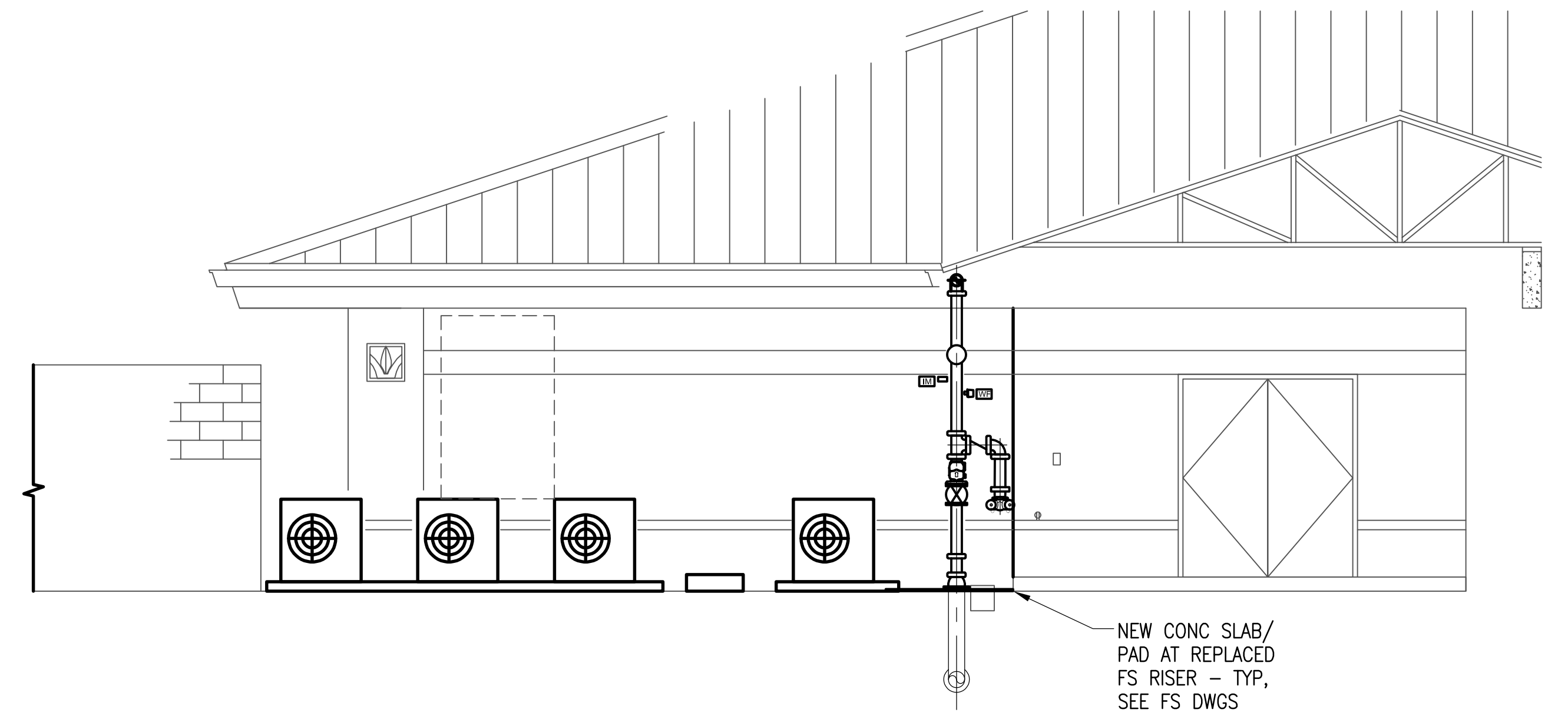
SCALE: AS NOTED  
 AUG 03, 2023



Date Plotted: Sat, 05 Aug 2023, 2:23pm  
 File Name: \\projap\Projects\21000.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\A401\_Classrm-fp\_ext\_elev.dwg

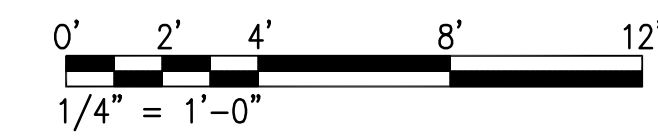


**1 CLASSROOM - PARTIAL ENLARGED NEW WORK FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

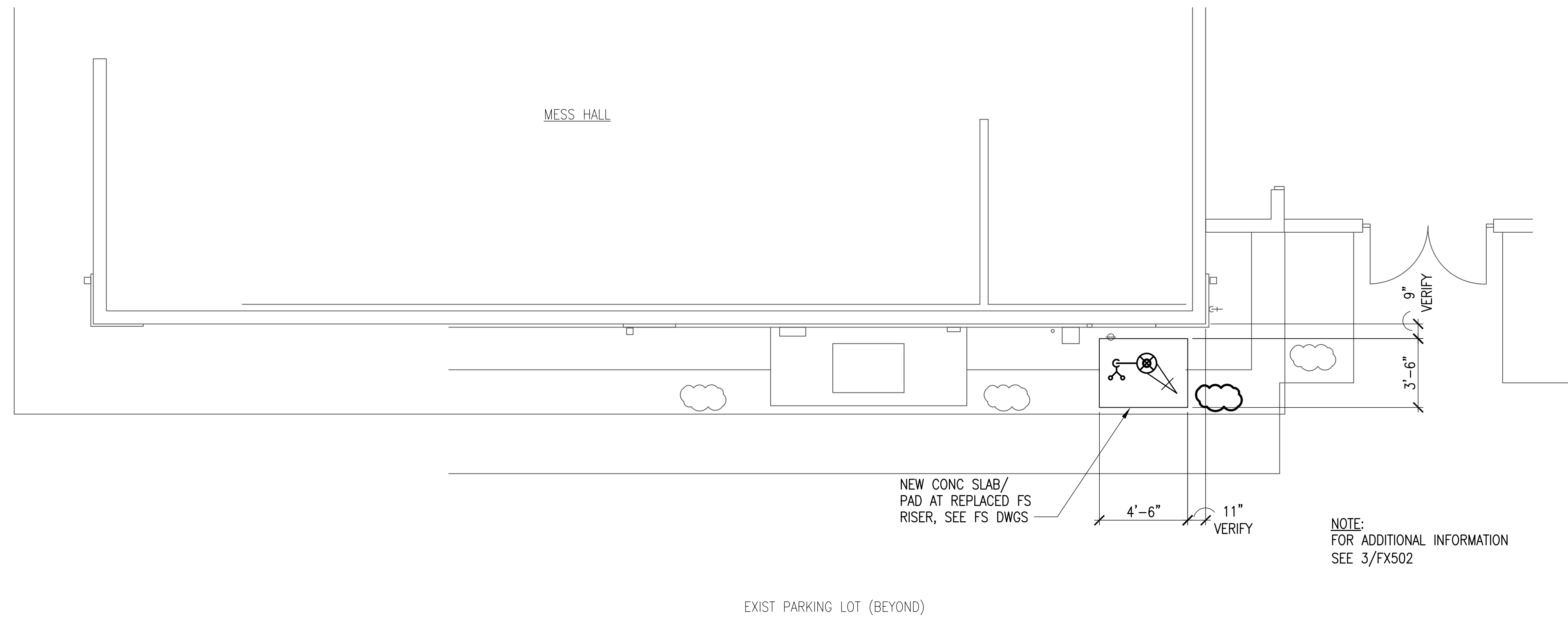


**2 CLASSROOM - PARTIAL EXTERIOR ELEVATION**  
 SCALE: 1/4" = 1'-0"

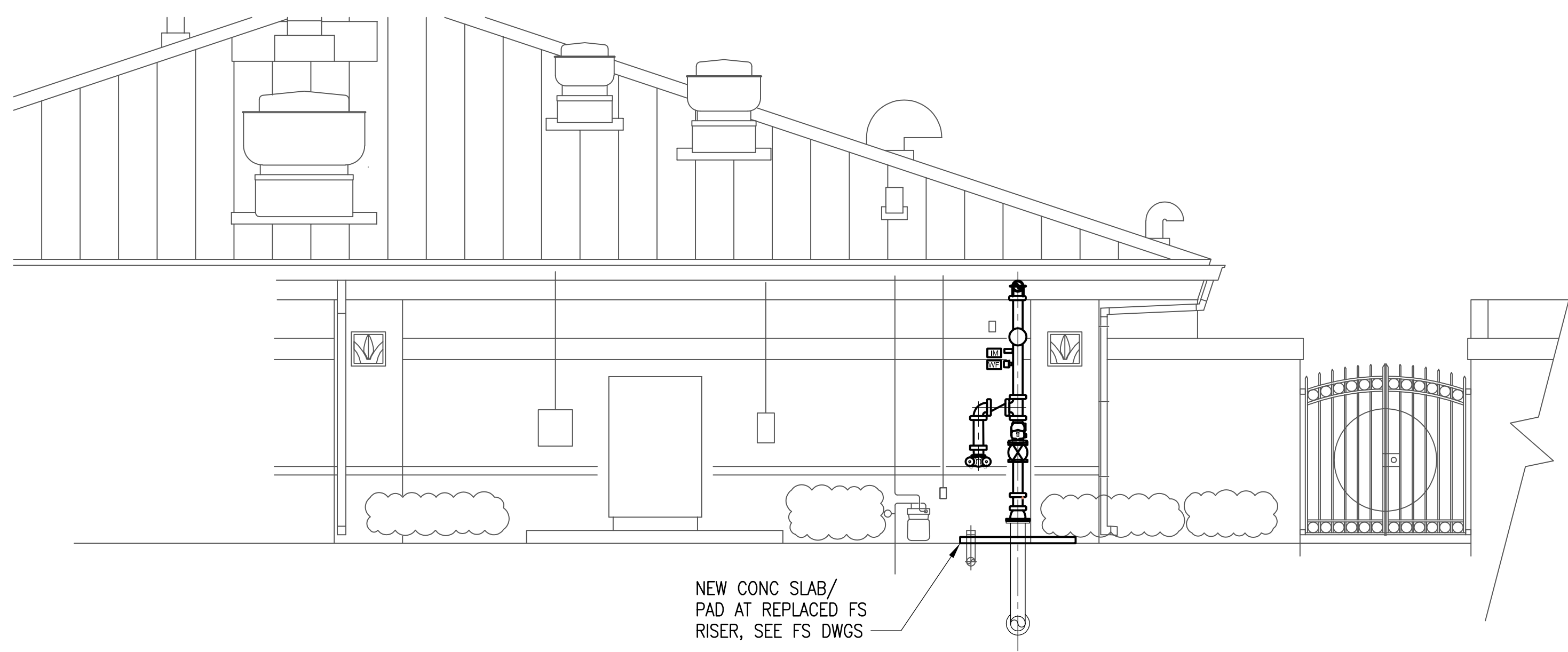
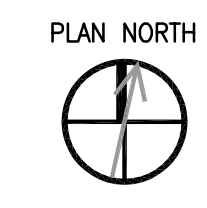
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>CLASSROOM - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND PARTIAL EXTERIOR ELEVATION</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. <b>CA-202006-C</b>	
DESIGNED BY: <b>CEI</b>		CHECKED BY: <b>DK</b>		SHEET NO. <b>A401</b>	
DRAWN BY: <b>GG</b>		APPROVED BY: <b>DK</b>		DATE <b>AUG 03, 2023</b>	
SIGNATURE  License Exp: 04/30/2024		SCALE: <b>AS NOTED</b>		SHEETS <b>10</b> OF <b>45</b> SHEETS	



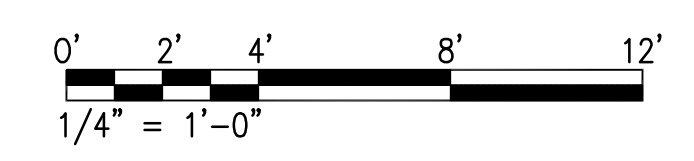
Date Plotted: Sat, 05 Aug 2023 - 2:13pm  
File Name: \\projap\Projects\21000.0000 Projects\21000.0000 Projects\21000.0000 Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A402\_Mess\_Hall-fp-ext\_elev.dwg



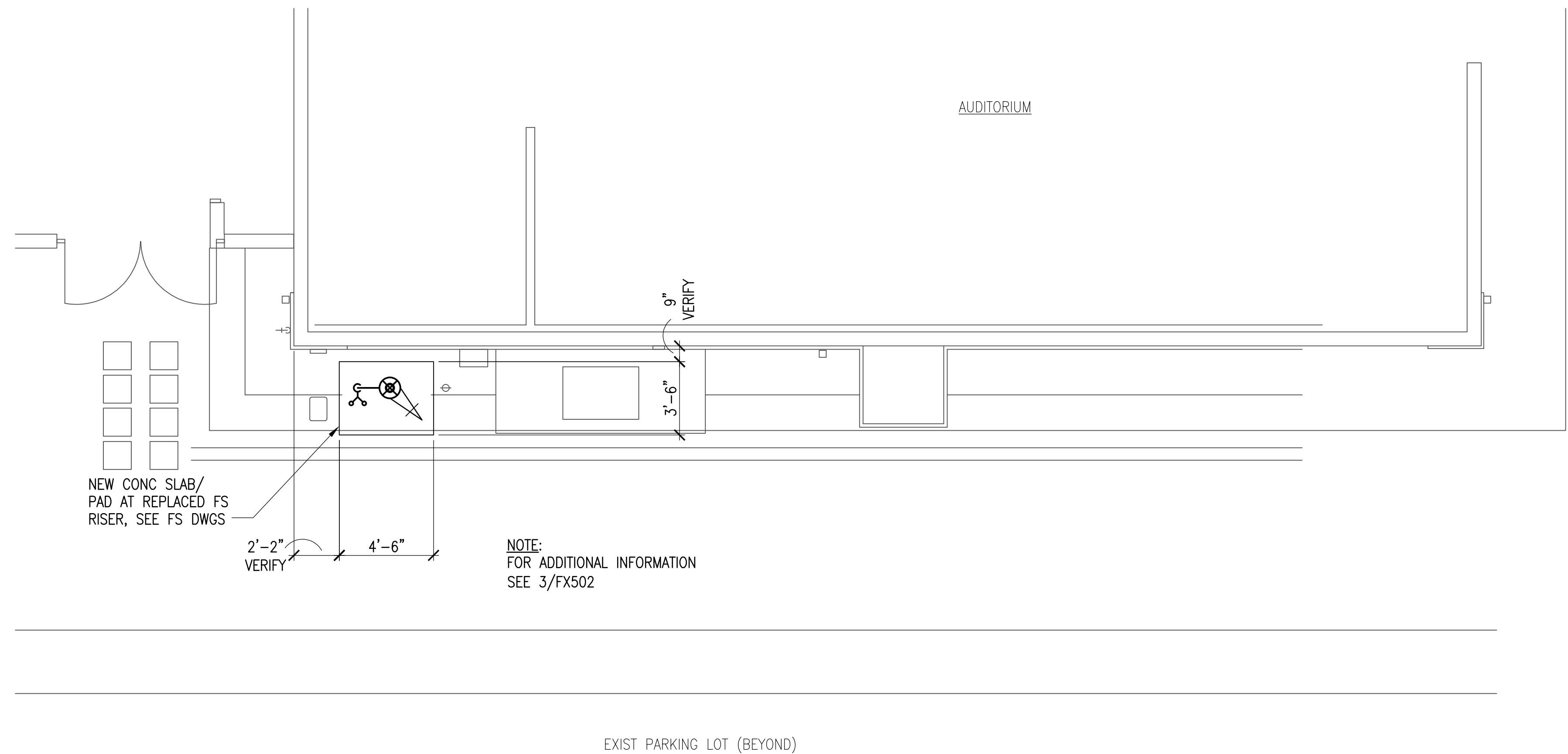
**1** MESS HALL - PARTIAL ENLARGED NEW WORK FLOOR PLAN  
SCALE: 1/4" = 1'-0"



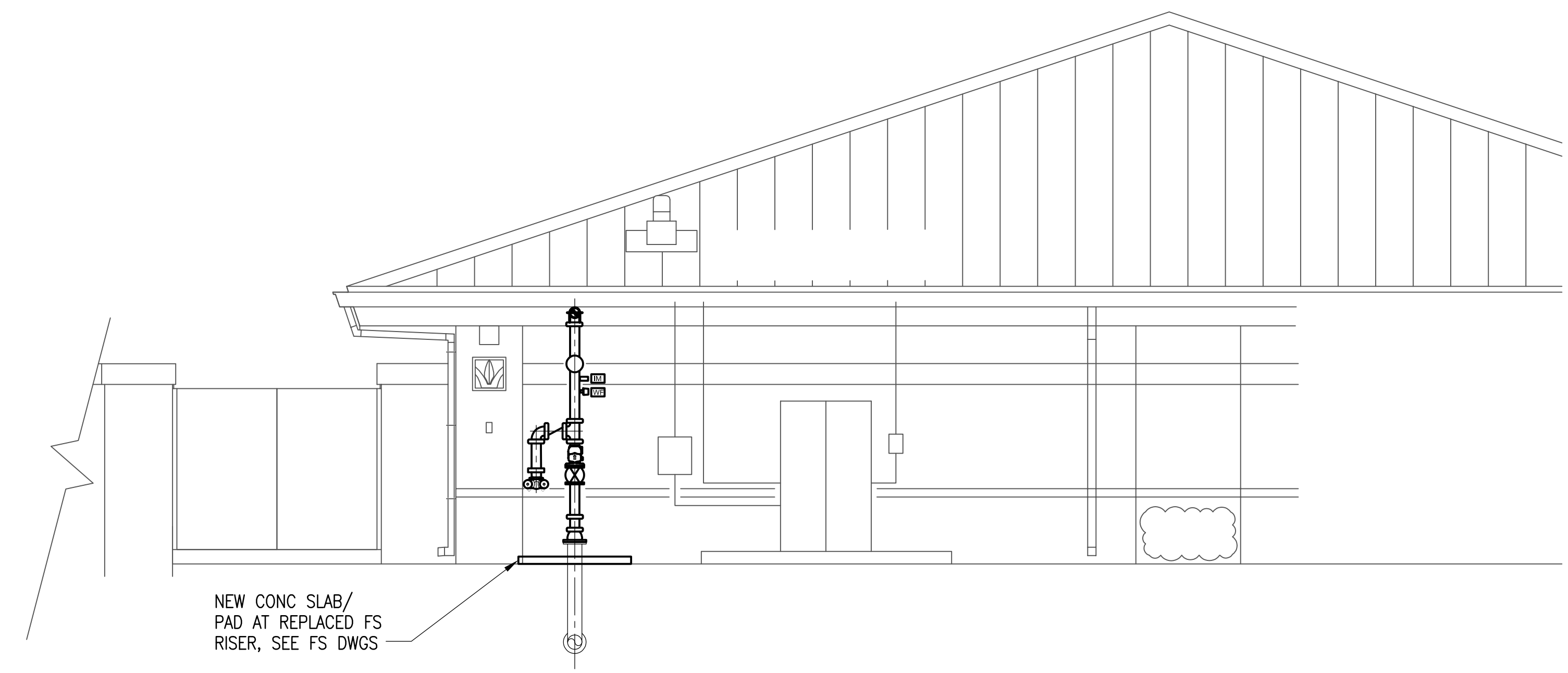
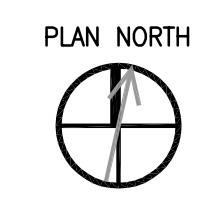
**2** MESS HALL - PARTIAL EXTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"



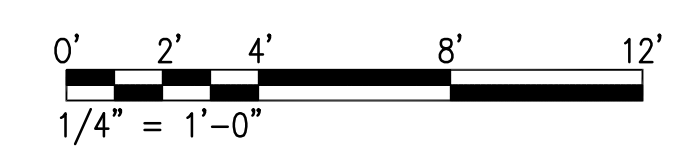
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>MESS HALL - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND PARTIAL EXTERIOR ELEVATION</b>					
			ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C
DESIGNED BY: CEI DRAWN BY: GG			CHECKED BY: DK APPROVED BY: DK		DATE AUG 03, 2023
SIGNATURE License Exp: 04/30/2024			SCALE: AS NOTED		DRAWING NO. <b>A402</b>  SHEET <b>11</b> OF 45 SHEETS



**1** AUDITORIUM - PARTIAL ENLARGED NEW WORK FLOOR PLAN  
 A403 SCALE: 1/4" = 1'-0"



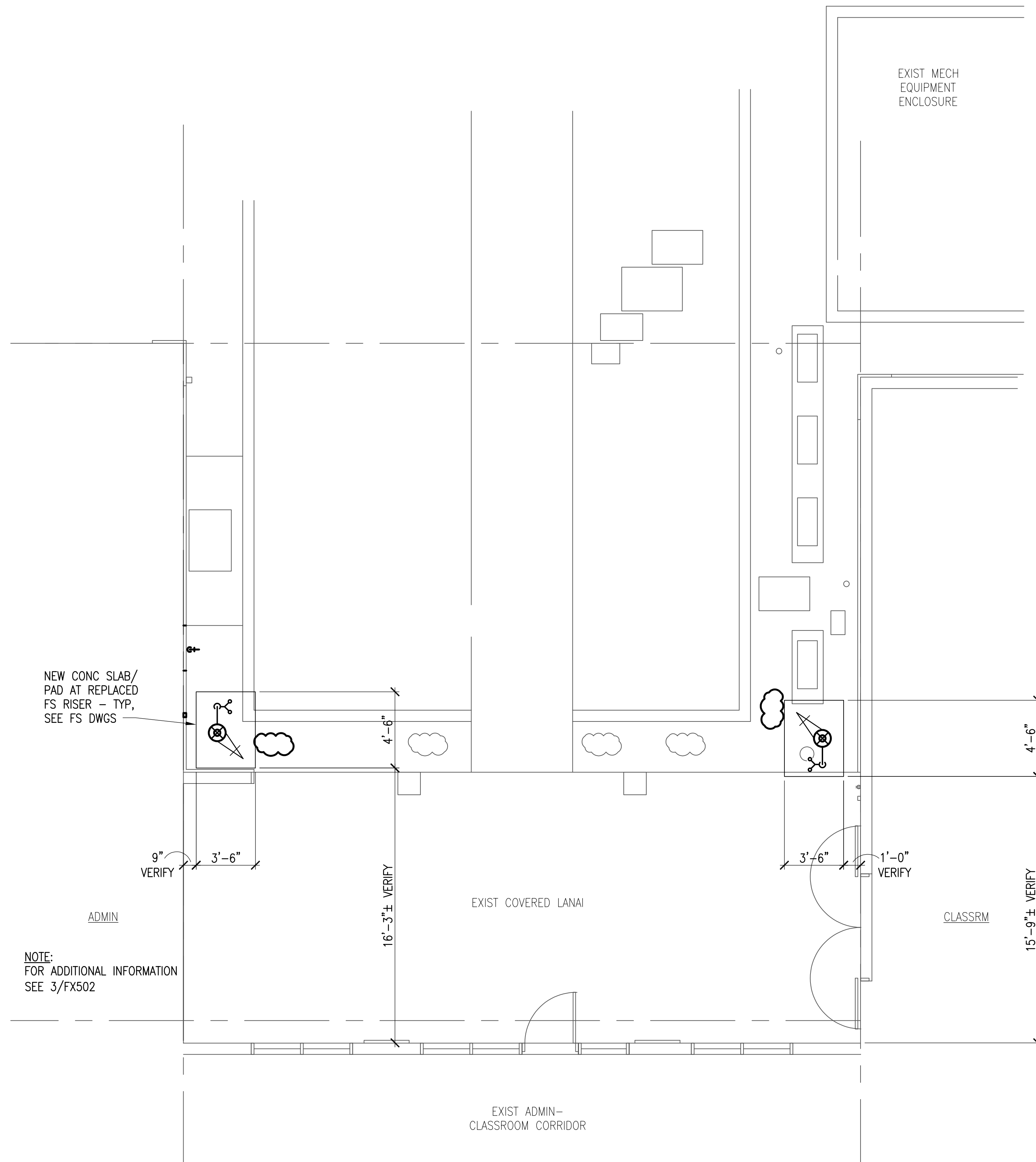
**2** AUDITORIUM - PARTIAL EXTERIOR ELEVATION  
 A403 SCALE: 1/4" = 1'-0"



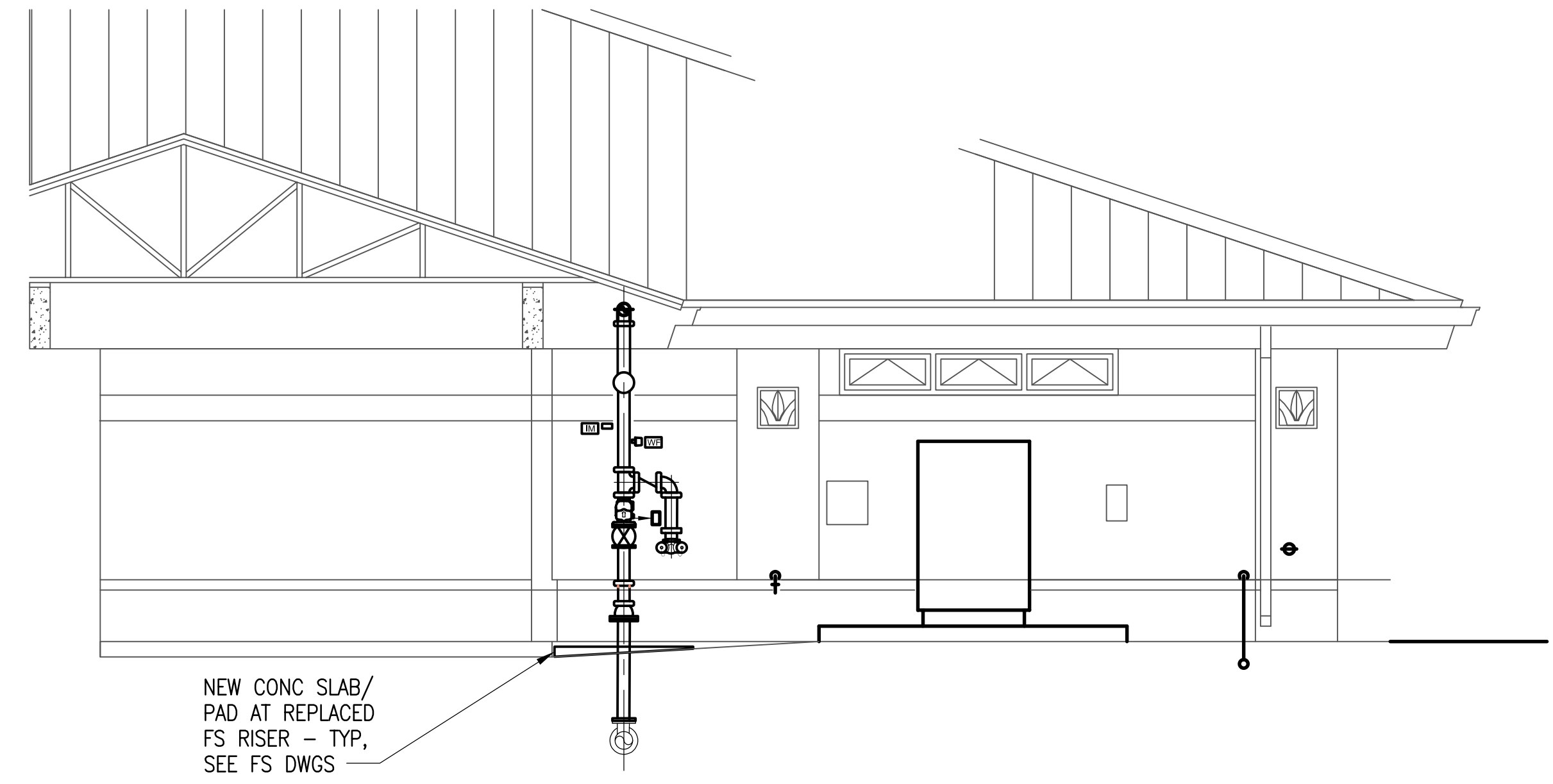
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII					
<b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>					
WAIMANALO, OAHU, HAWAII					
<b>ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION -</b> <b>AUDITORIUM</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. CA-202006-C	DRAWING NO. <b>A403</b>
DESIGNED BY: CEI	CHECKED BY: DK	DRAWN BY: GG	APPROVED BY: DK	DATE AUG 03, 2023	SHEET <b>12</b> OF 45 SHEETS
SIGNATURE  License Exp: 04/30/2024				SCALE: AS NOTED	FILE DRAWER FOLDER

Date Plotted: Sat, 05 Aug 2023, 2:16pm  
 File Name: \\projap\Projects\21000.0000 Projects\21000.0000 Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A403\_Auditorium-fp\_ext\_elev.dwg

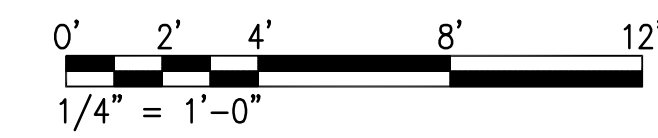
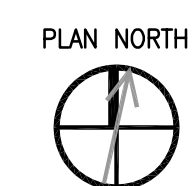
Date Plotted: Sat, 05 Aug 2023, 2:18pm  
File Name: \\projap\Projects\21000.0000\Projects\21000.0000\Drawings\Arch\A404\_Admin-fp\_ext\_elev.dwg



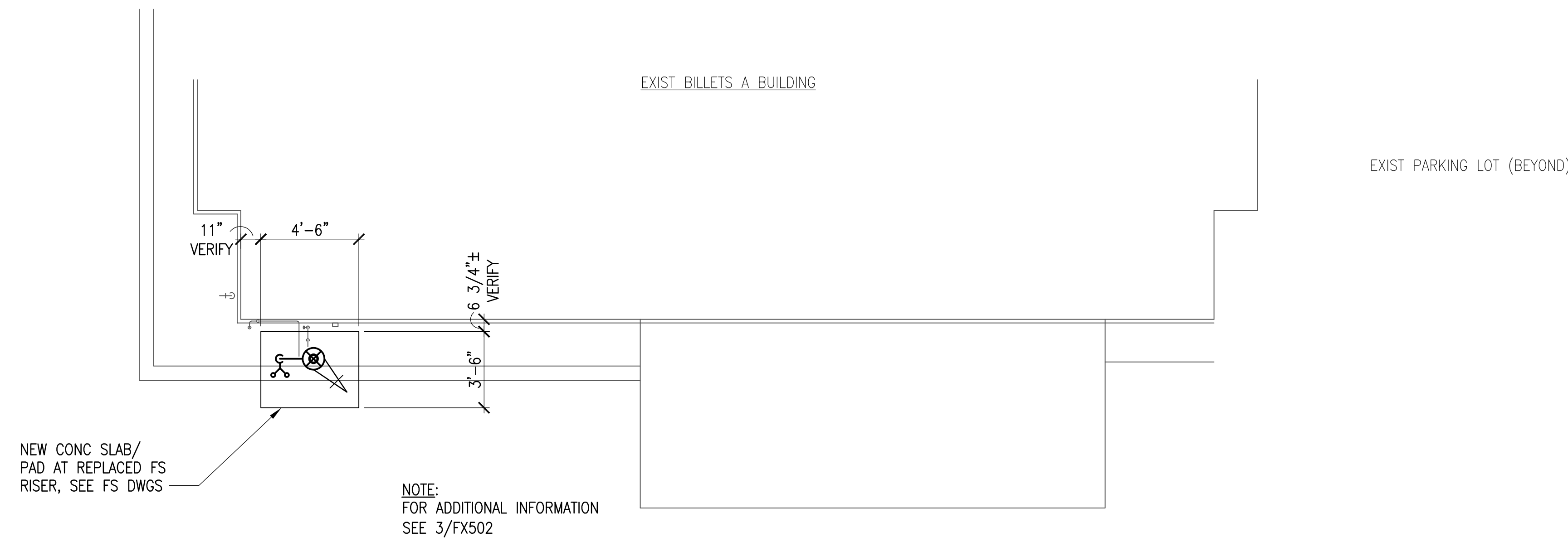
**1** ADMINISTRATION - PARTIAL ENLARGED NEW WORK FLOOR PLAN  
A404 SCALE: 1/4" = 1'-0"



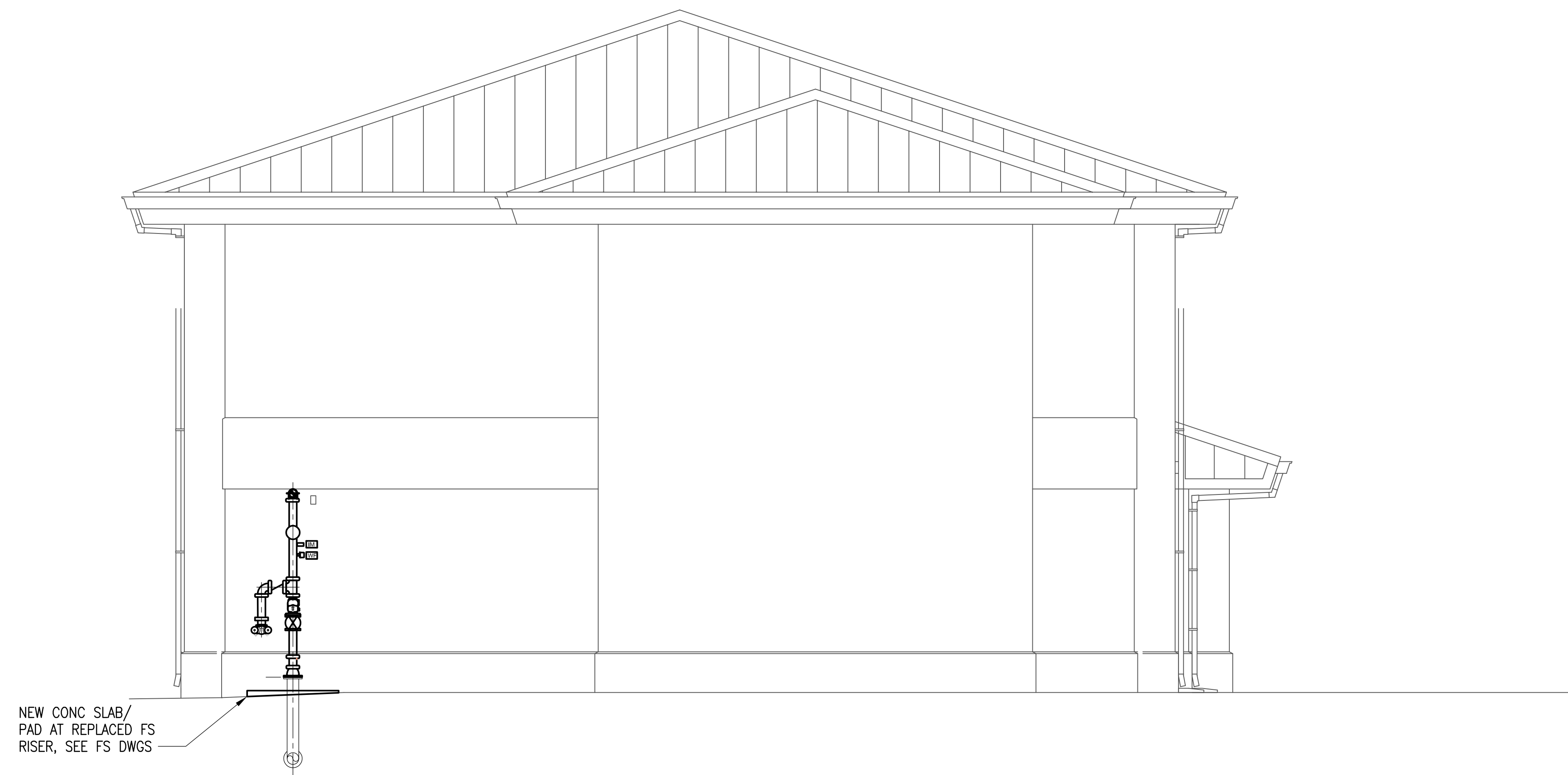
**2** ADMINISTRATION - PARTIAL EXTERIOR ELEVATION  
A404 SCALE: 1/4" = 1'-0"



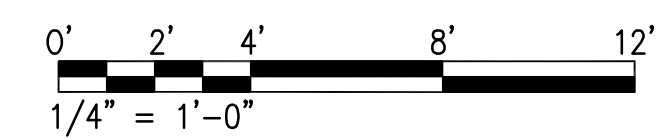
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<p>DEPARTMENT OF DEFENSE STATE OF HAWAII</p> <p>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</p> <p>WAIMANALO, OAHU, HAWAII</p> <p>ADMINISTRATION - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND PARTIAL EXTERIOR ELEVATION</p>					
<p>ARCHITECTS PACIFIC, INC.</p> <p>DESIGNED BY: CEI DRAWN BY: GG</p>			<p>CHECKED BY: DK APPROVED BY: DK</p>		<p>JOB NO. CA-202006-C</p> <p>DATE</p>
<p>SIGNATURE License Exp: 04/30/2024</p>			<p>SCALE: AS NOTED</p>		<p>DRAWING NO. A404</p> <p>SHEET 13 OF 45 SHEETS</p>



1 BILLETS - PARTIAL ENLARGED NEW WORK FLOOR PLAN  
SCALE: 1/4" = 1'-0"

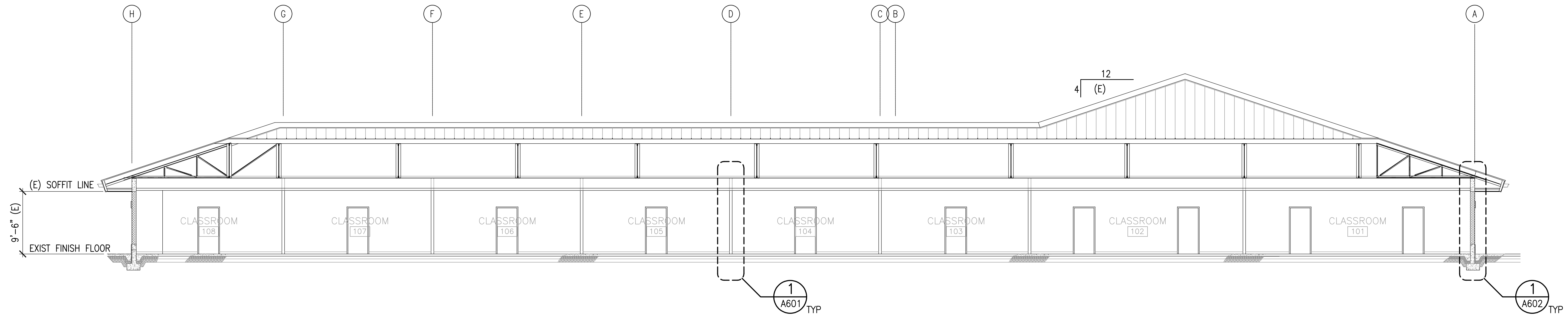


2 BILLETS - EXTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"

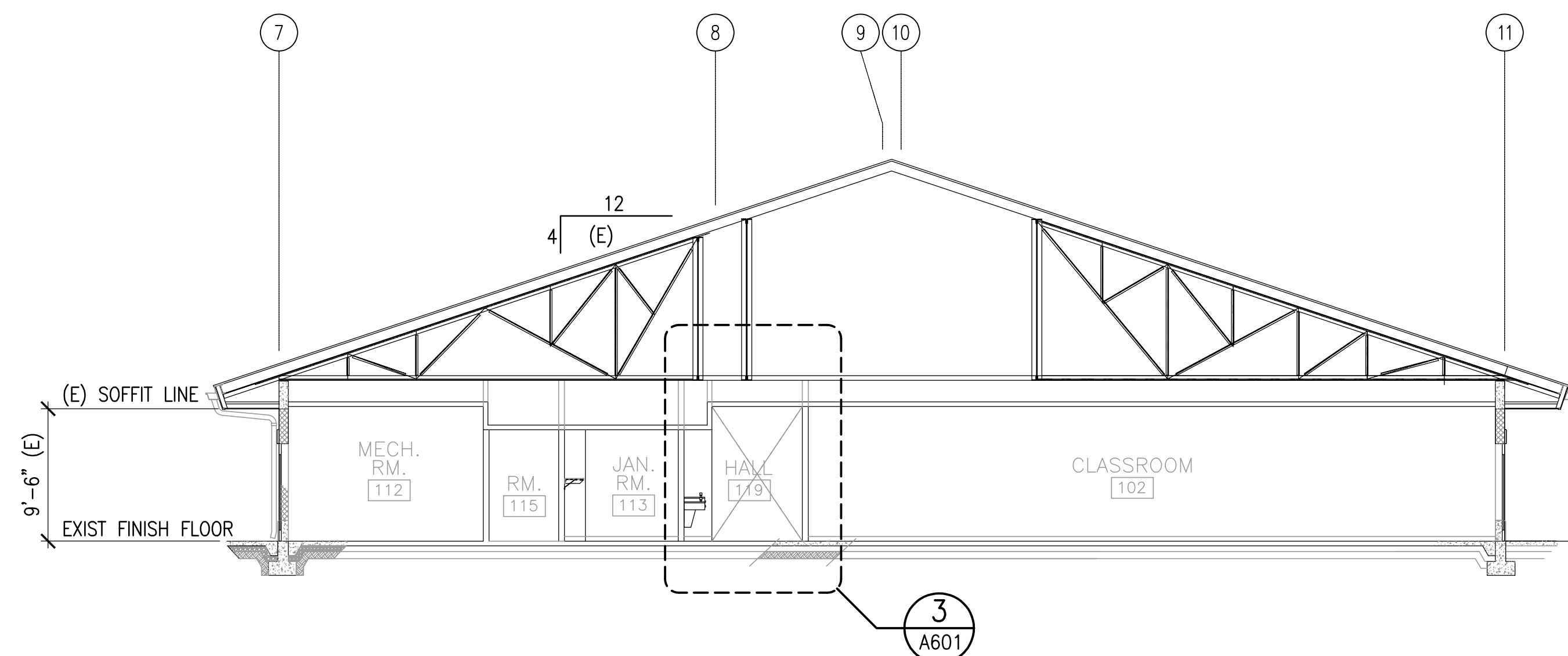


REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<p>DEPARTMENT OF DEFENSE STATE OF HAWAII</p> <p>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</p> <p>WAIMANALO, OAHU, HAWAII</p> <p>BILLETS - PARTIAL ENLARGED NEW WORK FLOOR PLAN AND EXTERIOR ELEVATION</p>					
<p>ARCHITECTS PACIFIC, INC.</p> <p>DESIGNED BY: CEI DRAWN BY: GG</p> <p>CHECKED BY: DK APPROVED BY: DK</p> <p>SIGNATURE License Exp: 04/30/2024</p>		<p>JOB NO. CA-202006-C</p>		<p>DRAWING NO. A405</p>	
		<p>DATE AUG 03, 2023</p>		<p>SHEET 14 OF 45 SHEETS</p>	
<p>SCALE: AS NOTED</p>					

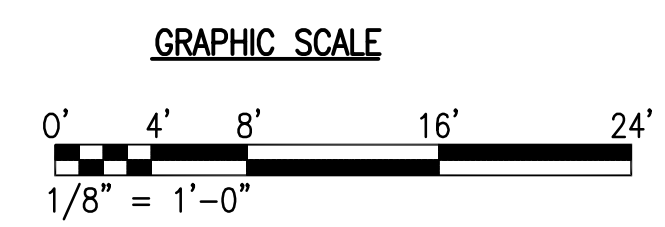
Date Plotted: Sat, 05 Aug 2023, 2:19pm  
File Name: \\projap\Projects\21000.0000\Projects\21000.0000\Drawings\Arch\Combined\A405\_Billets-fp-ext\_elev.dwg





**A CLASSROOM - LONGITUDINAL SECTION**  
 A501 SCALE: 1/8" = 1'-0"

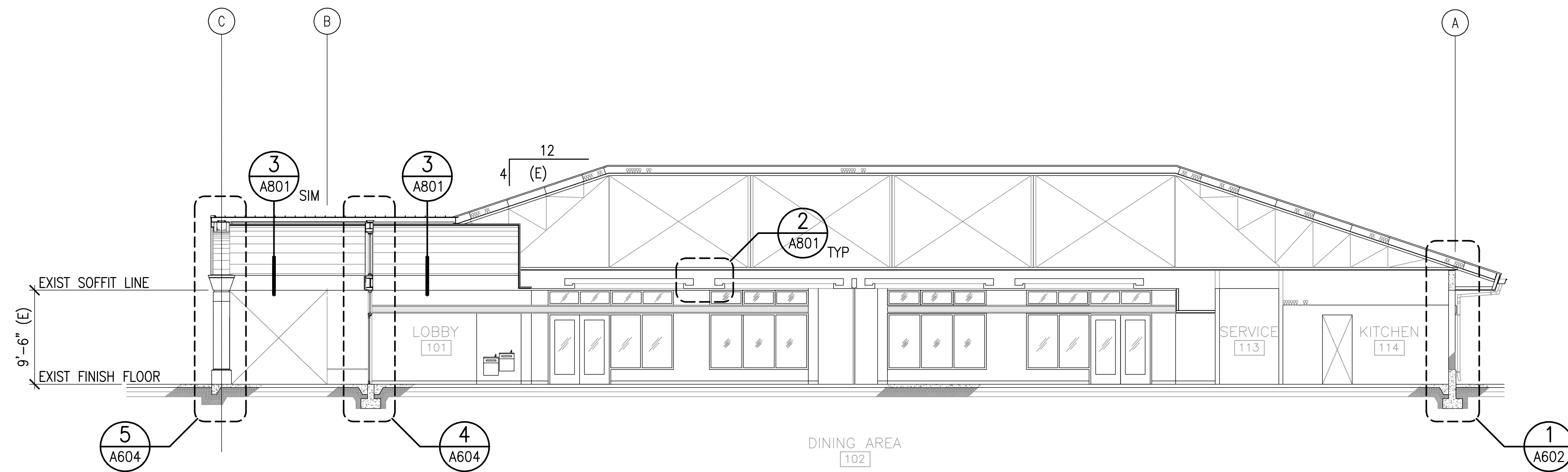


**B CLASSROOM - CROSS SECTION**  
 A501 SCALE: 1/8" = 1'-0"

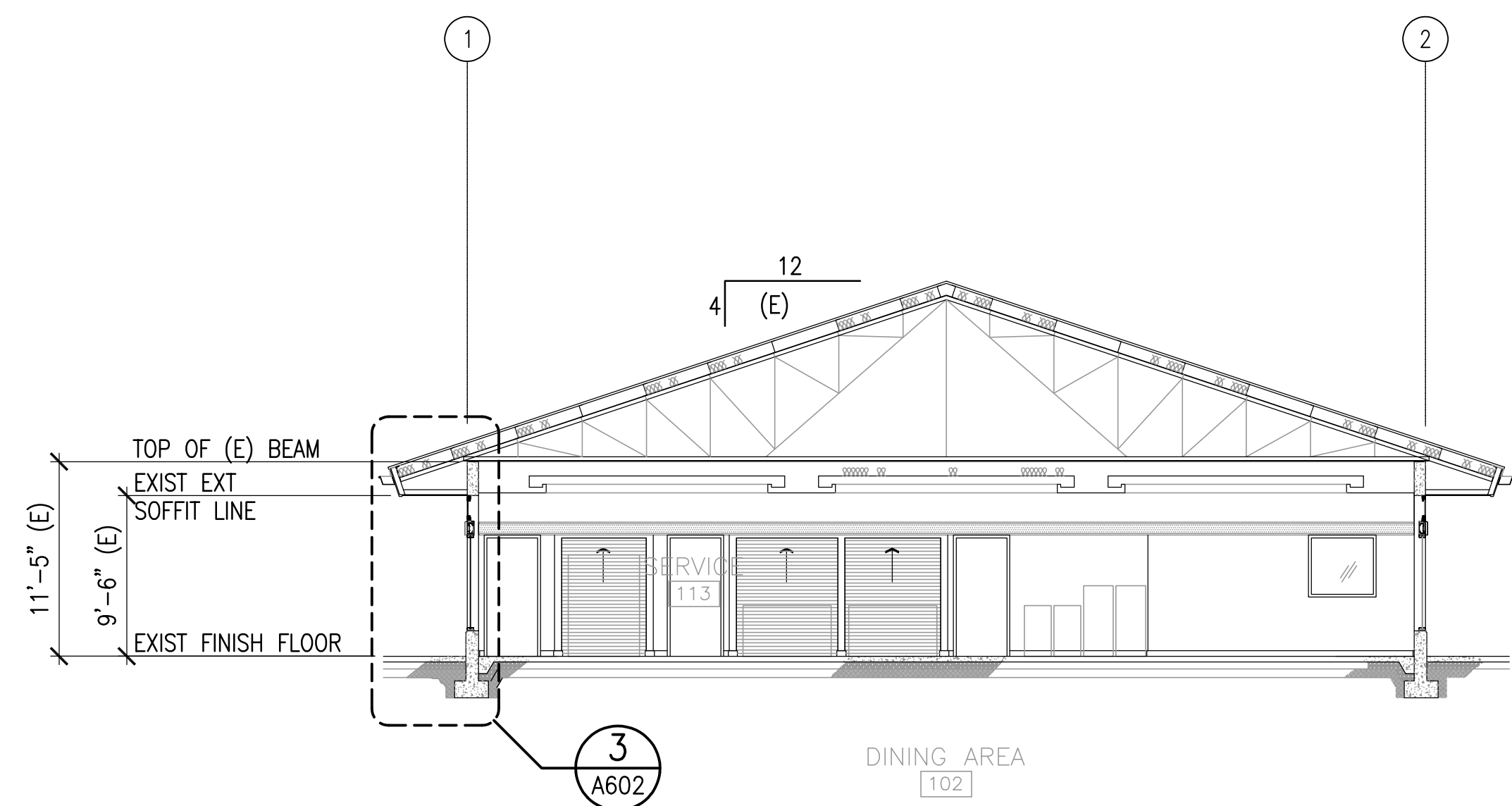


REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>CLASSROOM - BUILDING SECTIONS</b>					
 This work was prepared by me or under my supervision, and construction of this project will be under my observation.   SIGNATURE License Exp: 04/30/2024		<b>ARCHITECTS PACIFIC, INC.</b> DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK	JOB NO. CA-202006-C  DATE AUG 03, 2023
		SCALE: AS NOTED		DRAWING NO. <b>A501</b>  SHEET <b>15</b> OF 45 SHEETS	

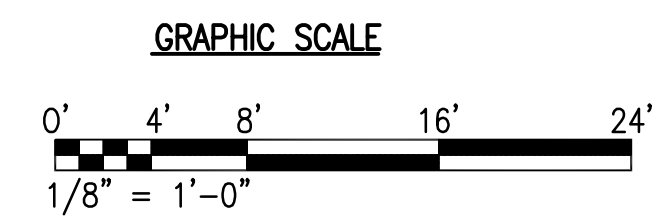
Date: P:\projects\31-Jul-2023 - 4:56pm  
 File Name: \projects\21010.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A502\_mess\_hall-bldg\_sections.dwg



**A MESS HALL - LONGITUDINAL SECTION**  
 A502 SCALE: 1/8" = 1'-0"

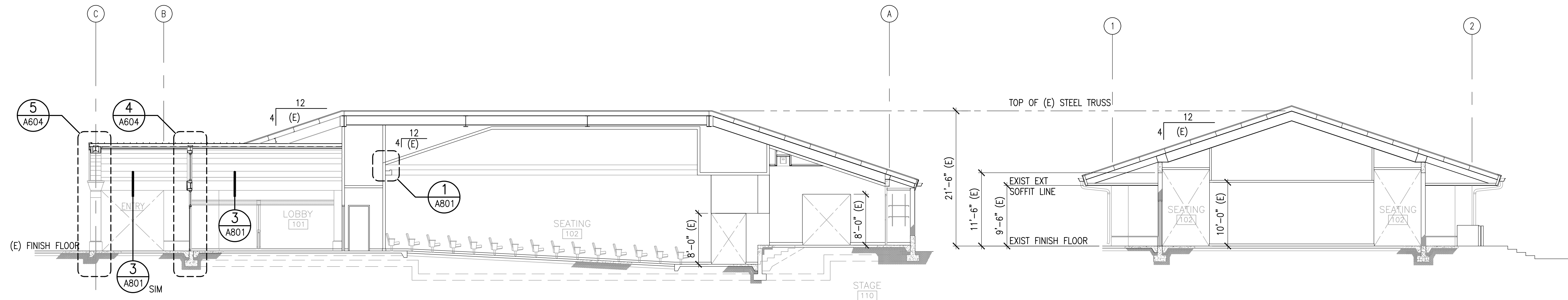


**B MESS HALL - CROSS SECTION**  
 A502 SCALE: 1/8" = 1'-0"



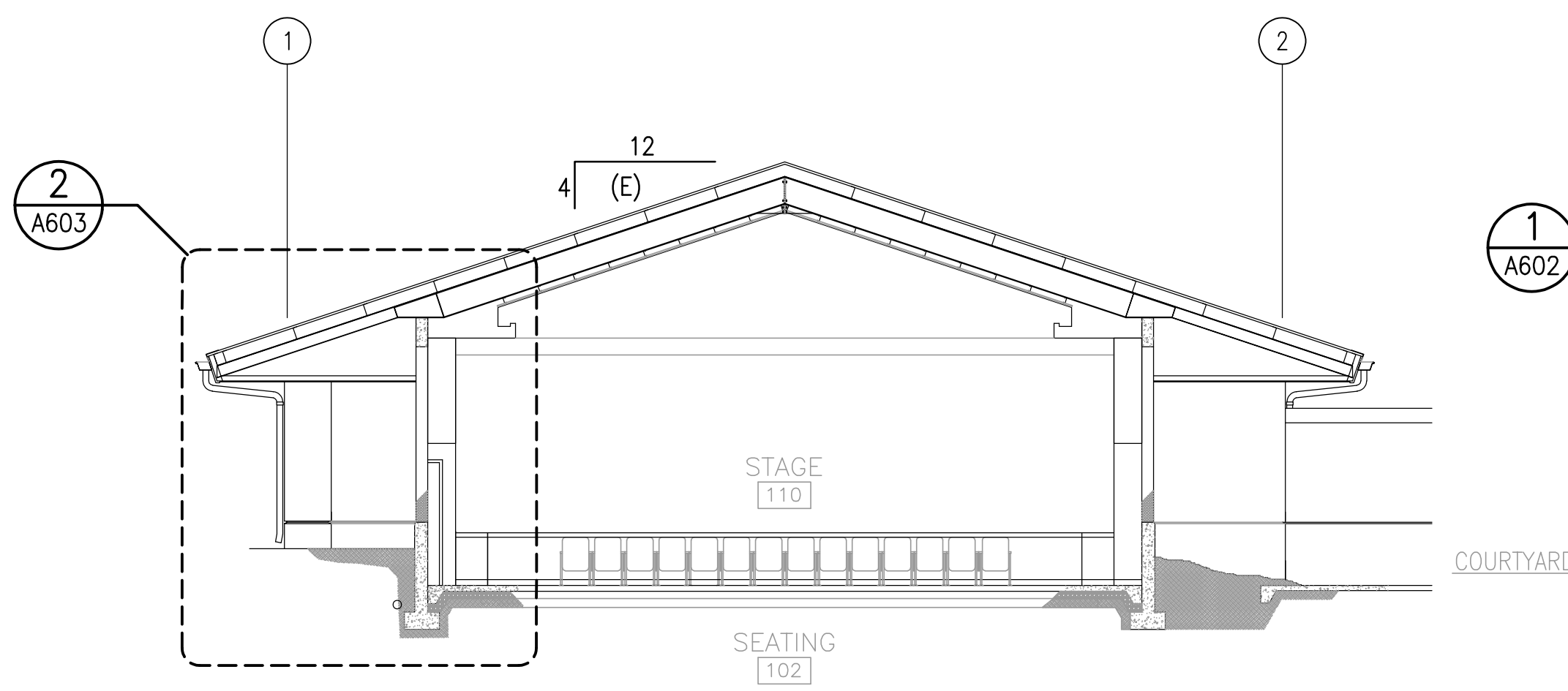
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII					
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT					
WAIMANALO, OAHU, HAWAII					
MESS HALL - BUILDING SECTIONS					
		ARCHITECTS PACIFIC, INC.		JOB NO. CA-202006-C	DRAWING NO. <b>A502</b>
		DESIGNED BY: CEI	CHECKED BY: DK	DATE	SHEET <b>16</b>
SIGNATURE  License Exp: 04/30/2024		DRAWN BY: GG	APPROVED BY: DK	DATE AUG 03, 2023	OF 45 SHEETS
SCALE: AS NOTED				AUG 03, 2023	

Date: Picked Mon, 31 Jul 2023 - 4:57pm  
 File Name: \\proj\proj\Projects\21000.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\A503\_auditorium-bldg\_sections.dwg

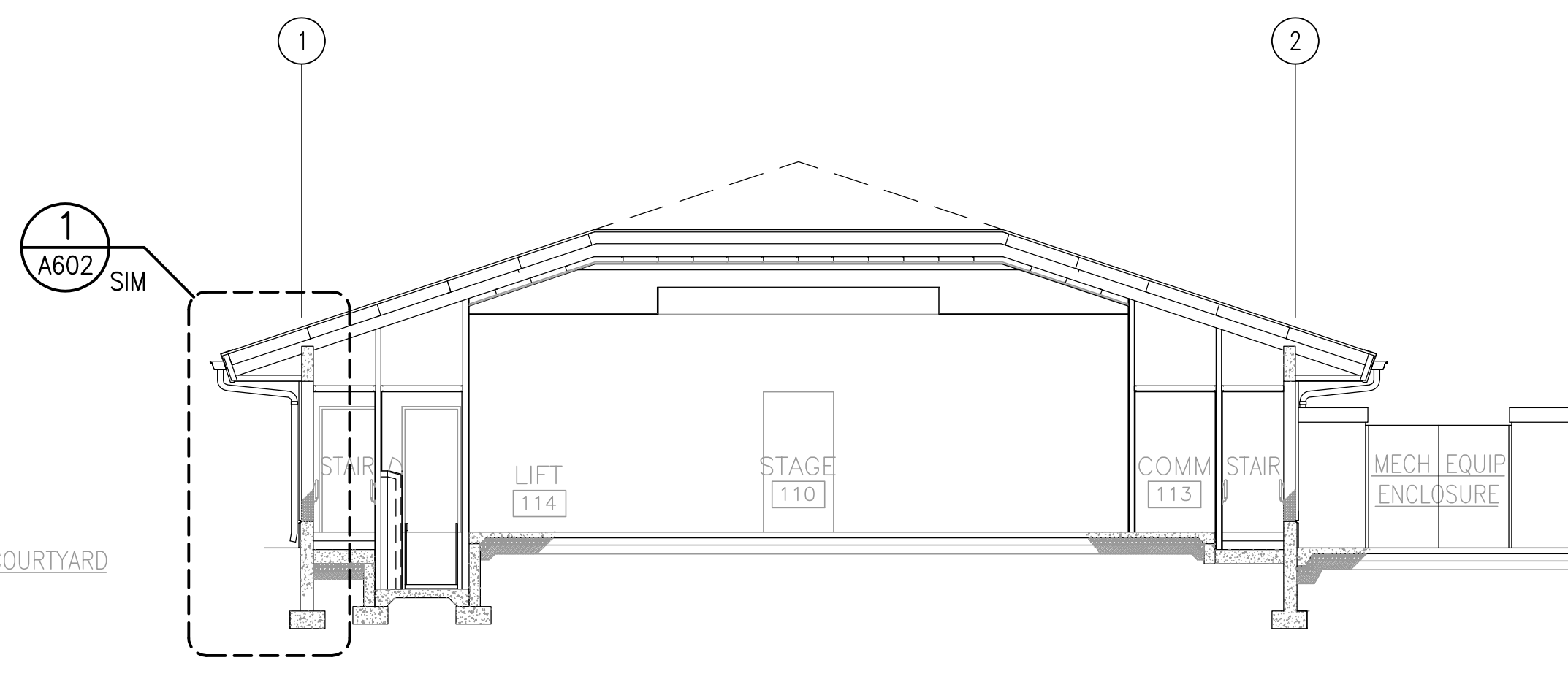


**A AUDITORIUM - LONGITUDINAL SECTION**  
 A503 SCALE: 1/8" = 1'-0"

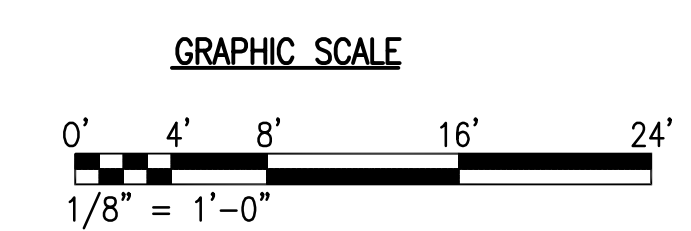
**B AUDITORIUM - CROSS SECTION THRU SEATING**  
 A503 SCALE: 1/8" = 1'-0"



**C AUDITORIUM - CROSS SECTION THRU STAGE FRONT**  
 A503 SCALE: 1/8" = 1'-0"



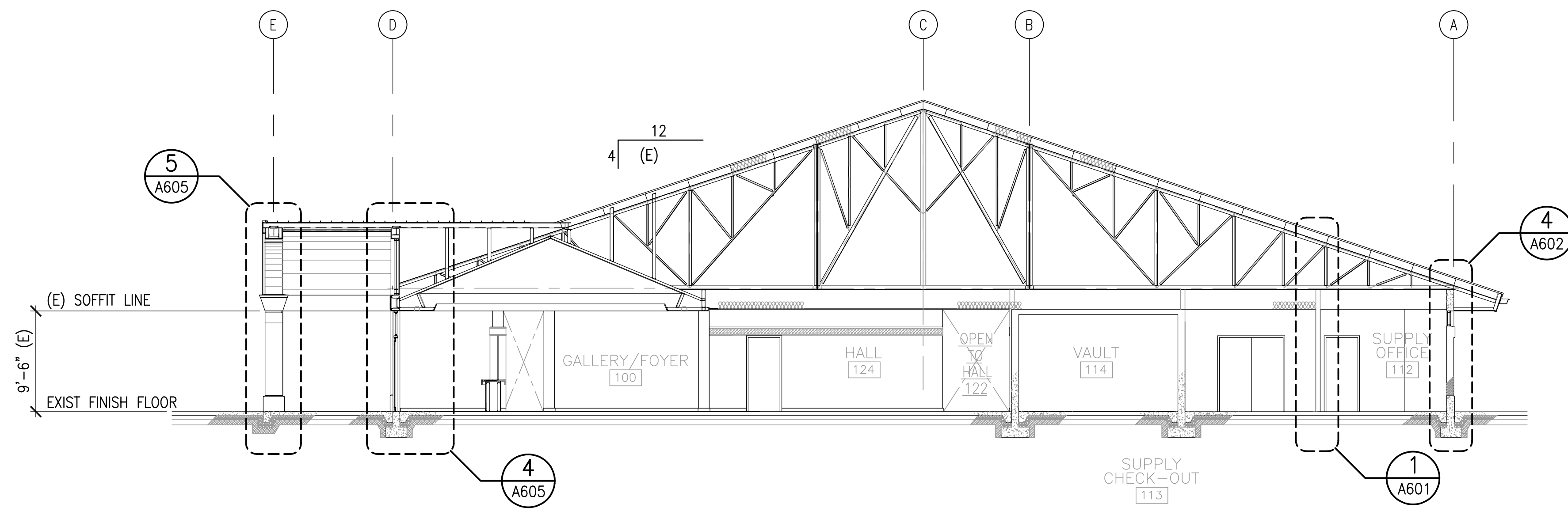
**D AUDITORIUM - CROSS SECTION THRU STAGE**  
 A503 SCALE: 1/8" = 1'-0"



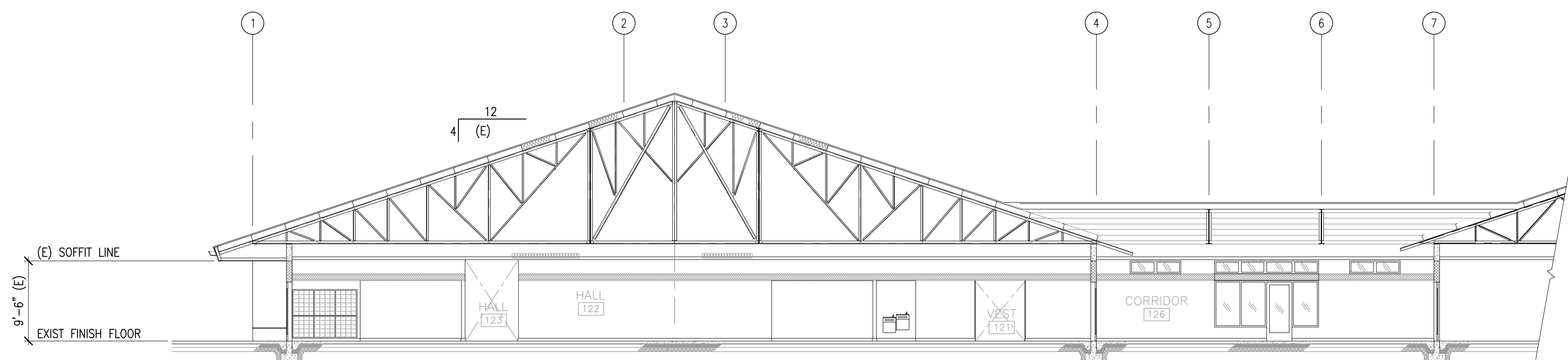
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>AUDITORIUM - BUILDING SECTIONS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. CA-202006-C	DRAWING NO. <b>A503</b>
DESIGNED BY: CEI		CHECKED BY: DK		DATE	
DRAWN BY: GG		APPROVED BY: DK		SHEET <b>17</b>	
SCALE: AS NOTED				AUG 03, 2023	
SIGNATURE  License Exp: 04/30/2024					
OF 45 SHEETS					



Date: P:\projects\31 Jul 2023 - 4:58pm  
 File Name: \projects\21010.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A504\_admin-bldg\_sections.dwg

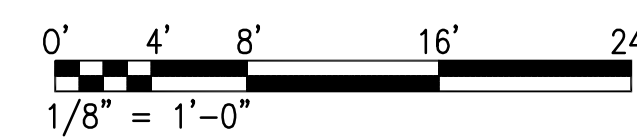


**A ADMINISTRATION - LONGITUDINAL SECTION**  
 A504 SCALE: 1/8" = 1'-0"



**B ADMINISTRATION - CROSS SECTION**  
 A504 SCALE: 1/8" = 1'-0"

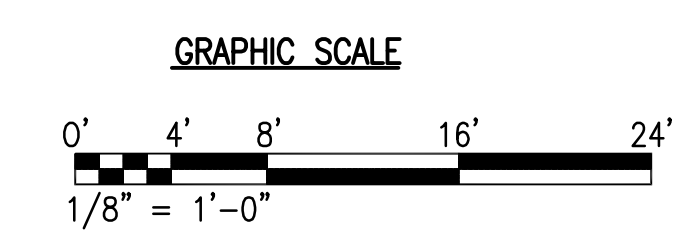
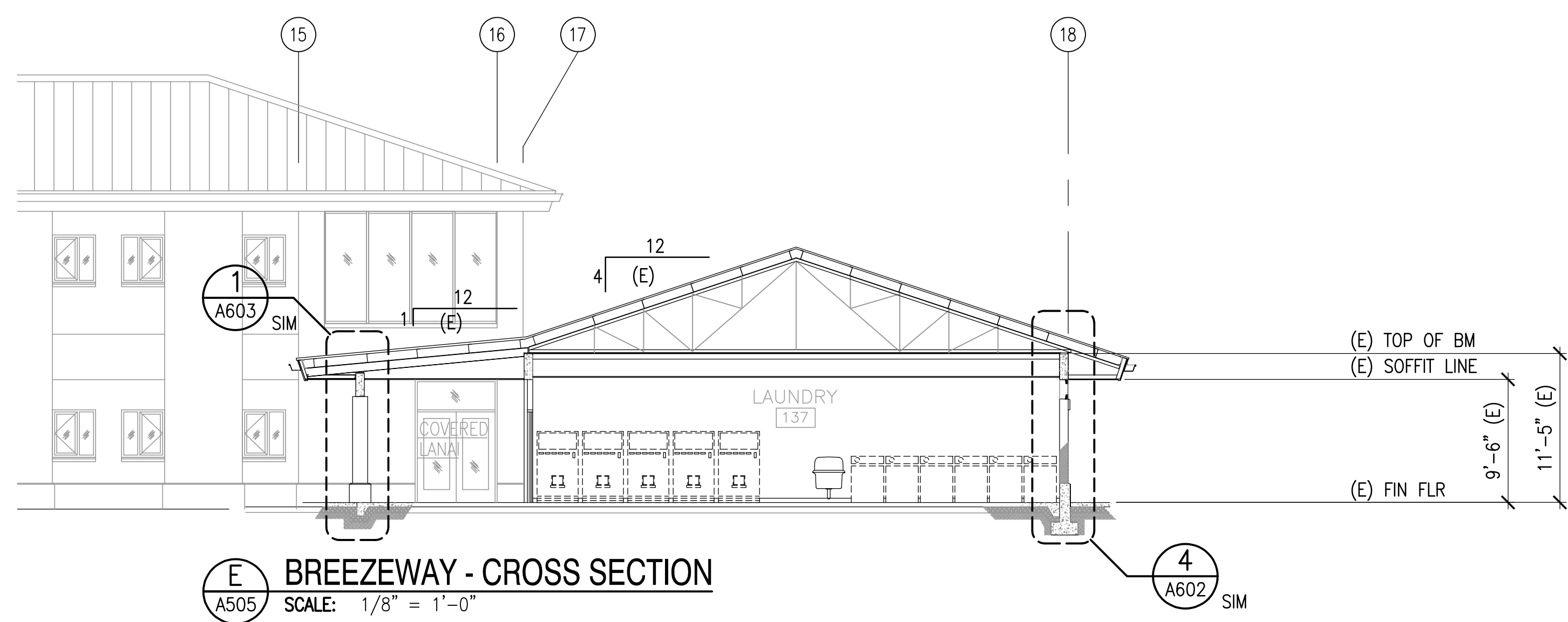
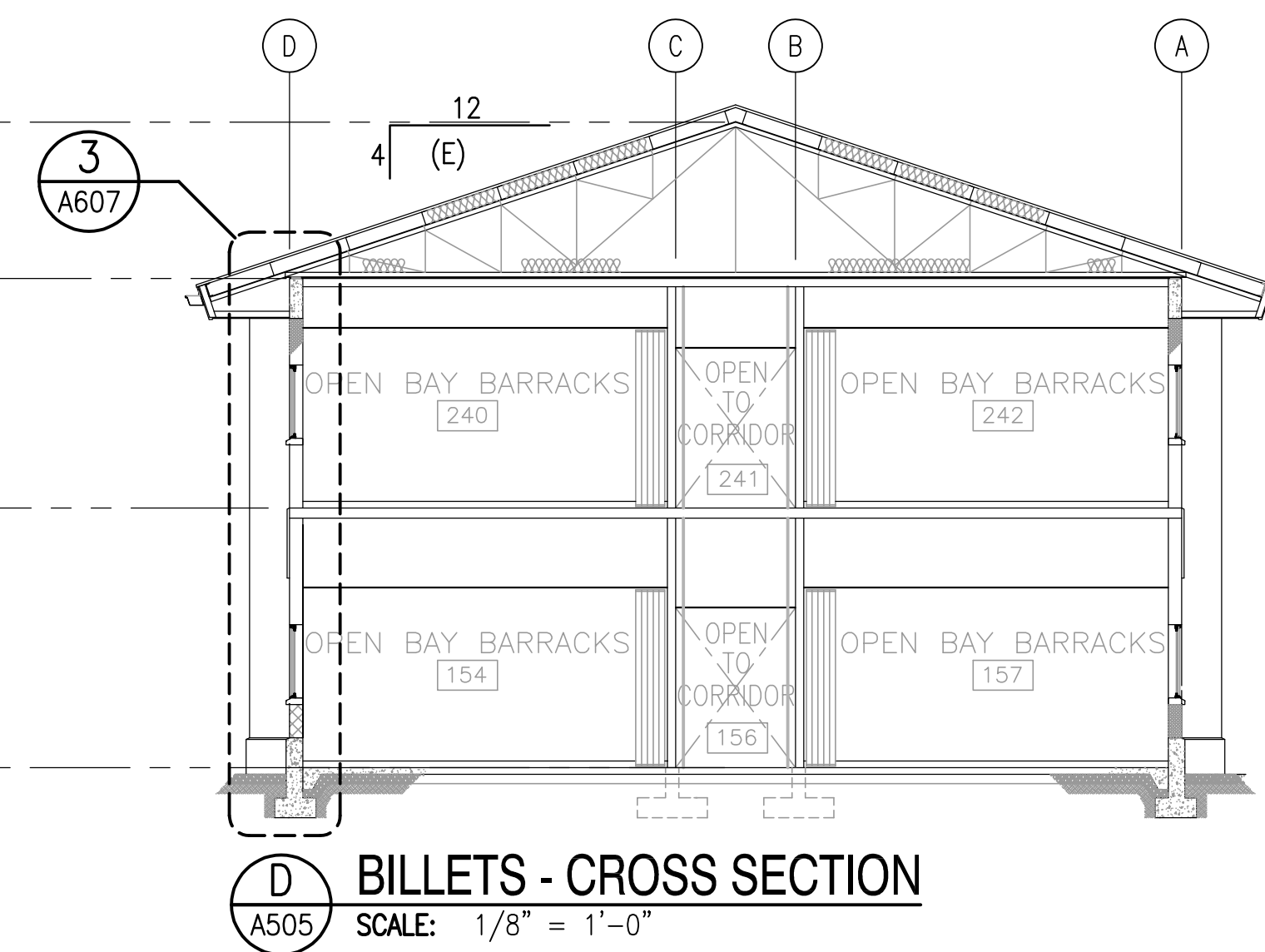
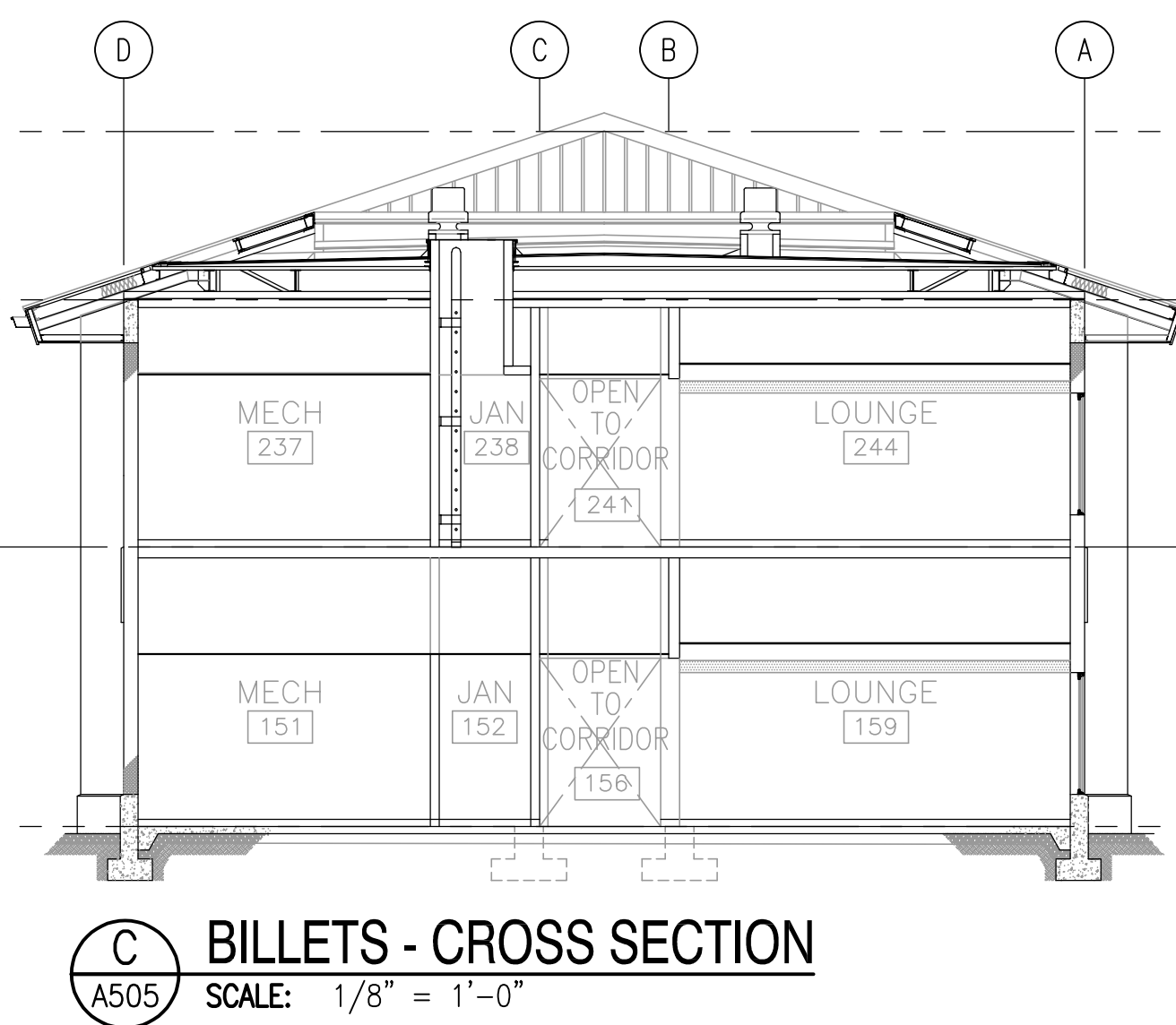
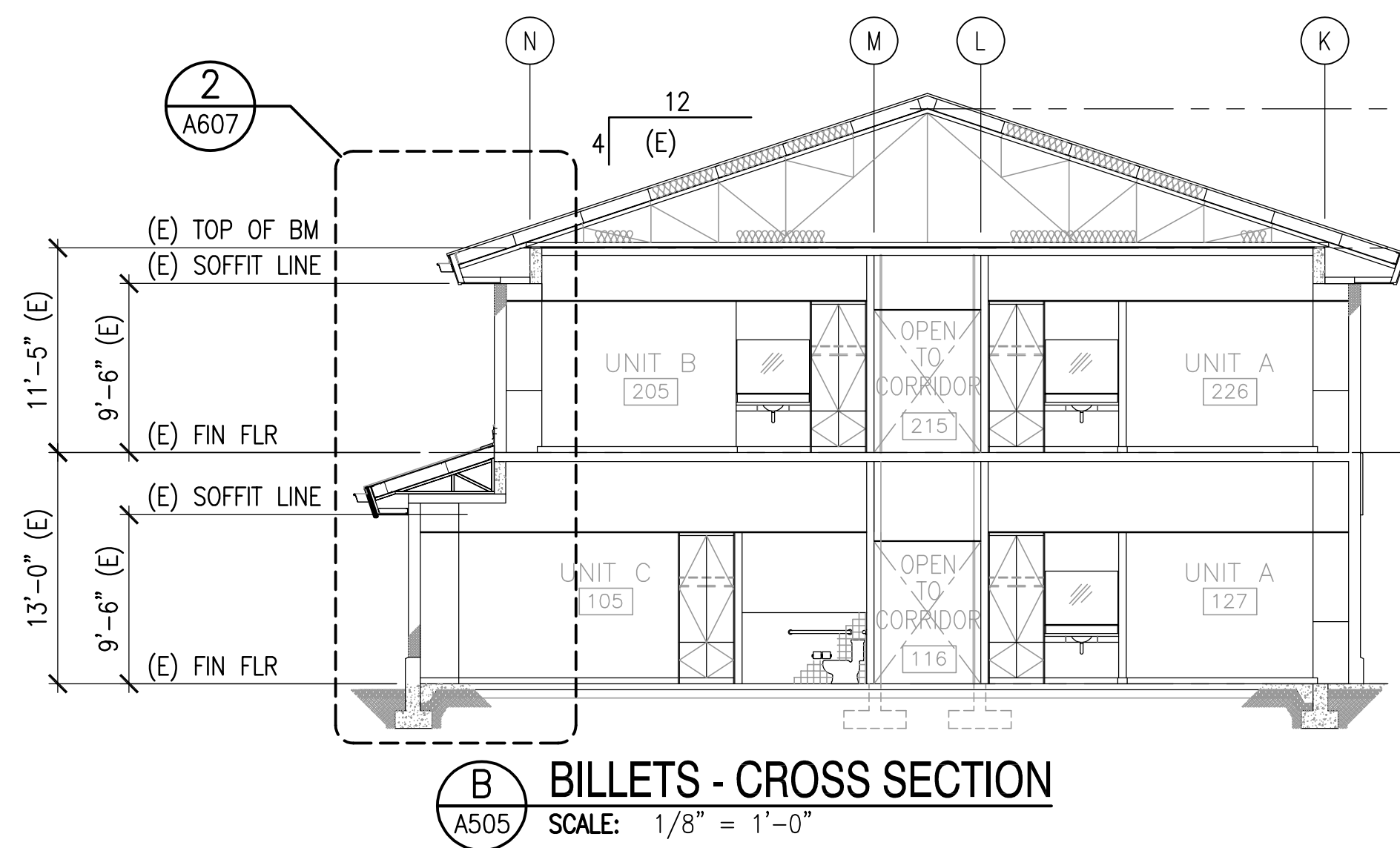
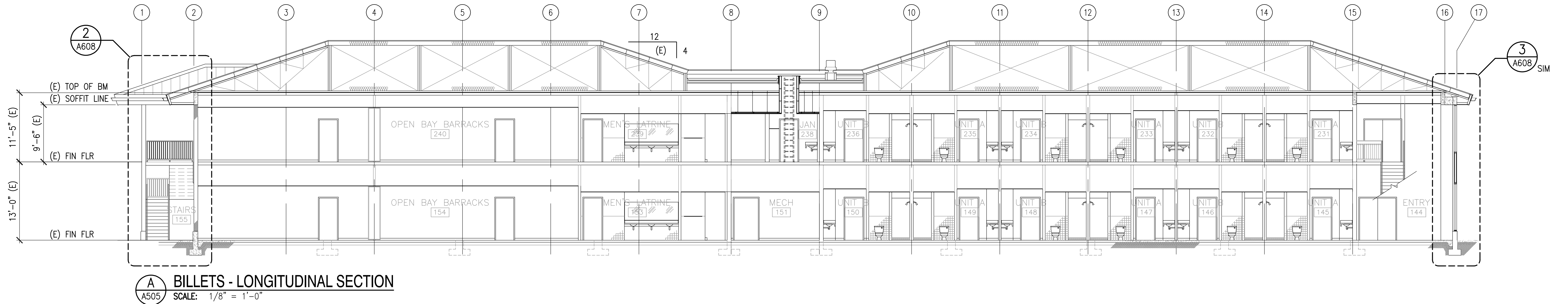
GRAPHIC SCALE



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII					
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT					
WAIMANALO, OAHU, HAWAII					
ADMINISTRATION - BUILDING SECTIONS					
		ARCHITECTS PACIFIC, INC.		JOB NO.	DRAWING NO.
		DESIGNED BY: CEI DRAWN BY: GG	CHECKED BY: DK APPROVED BY: DK	CA-202006-C	<b>A504</b> SHEET 18 OF 45 SHEETS
SIGNATURE License Exp: 04/30/2024		SCALE: AS NOTED		DATE AUG 03, 2023	FILE DRAWER FOLDER

This work was prepared by me or under my supervision, and construction of this project will be under my observation.

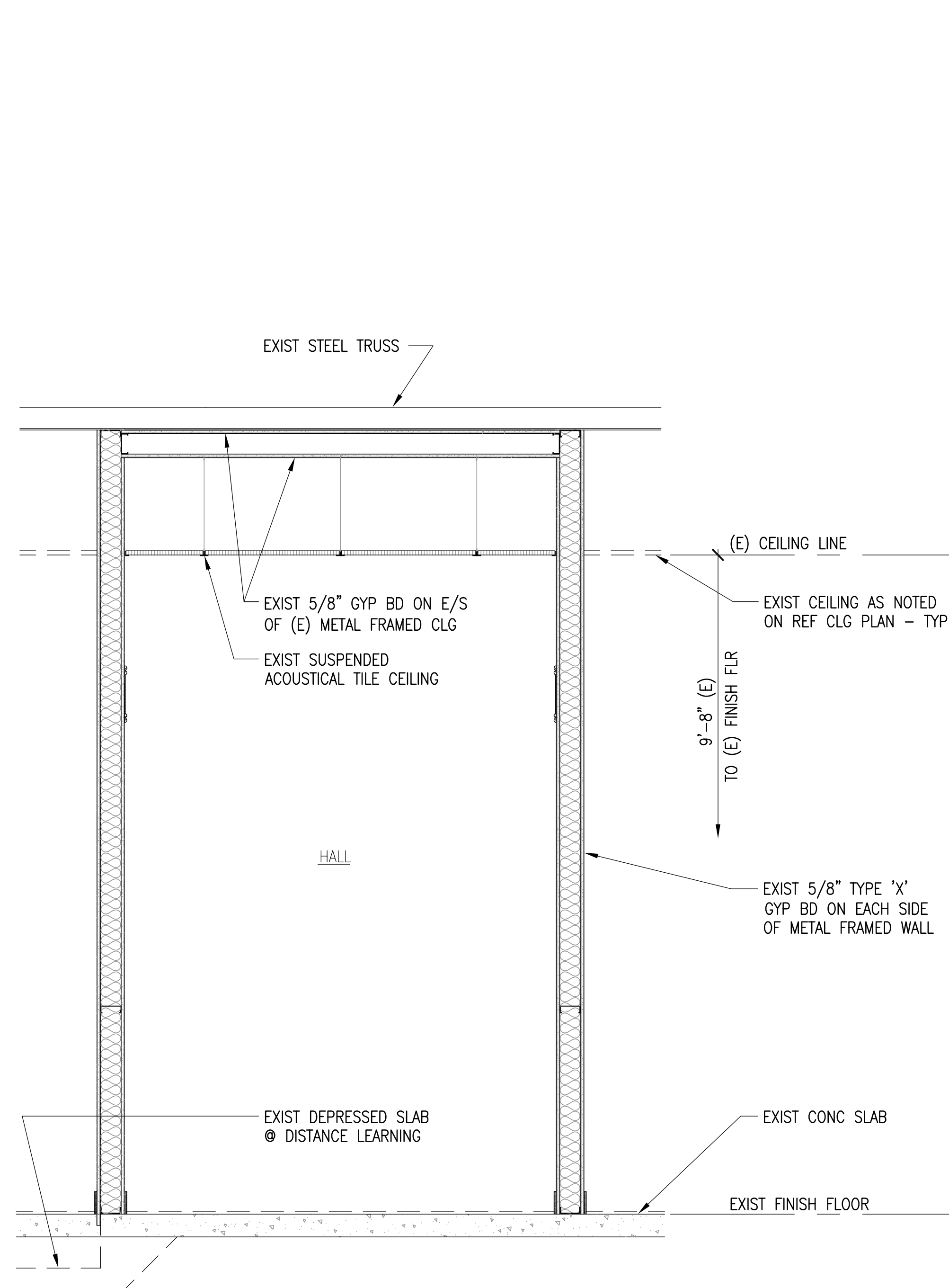
*[Signature]*  
 SIGNATURE  
 License Exp: 04/30/2024



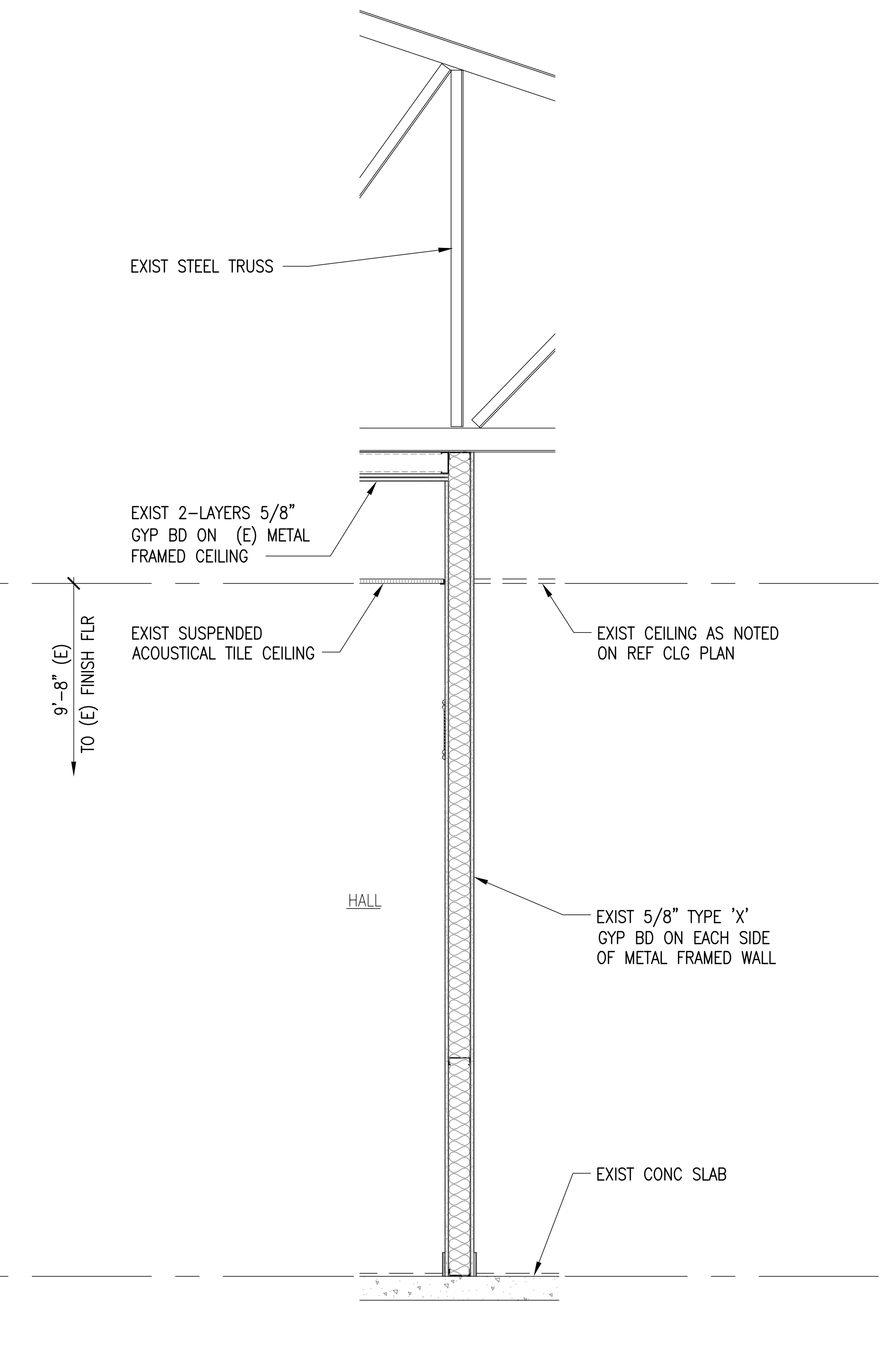
REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>BILLETS - BUILDING SECTIONS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO.	DRAWING NO.
DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK		CA-202006-C	<b>A505</b>
SIGNATURE License Exp: 04/30/2024		SCALE: AS NOTED		DATE	SHEET 19 OF 45 SHEETS
				AUG 03, 2023	

Date: P:\projects\21010.0000\Belongs Fire Sprinkler System\4\_DRAWINGS\Arch\A505\_billets-bldg\_sections.dwg  
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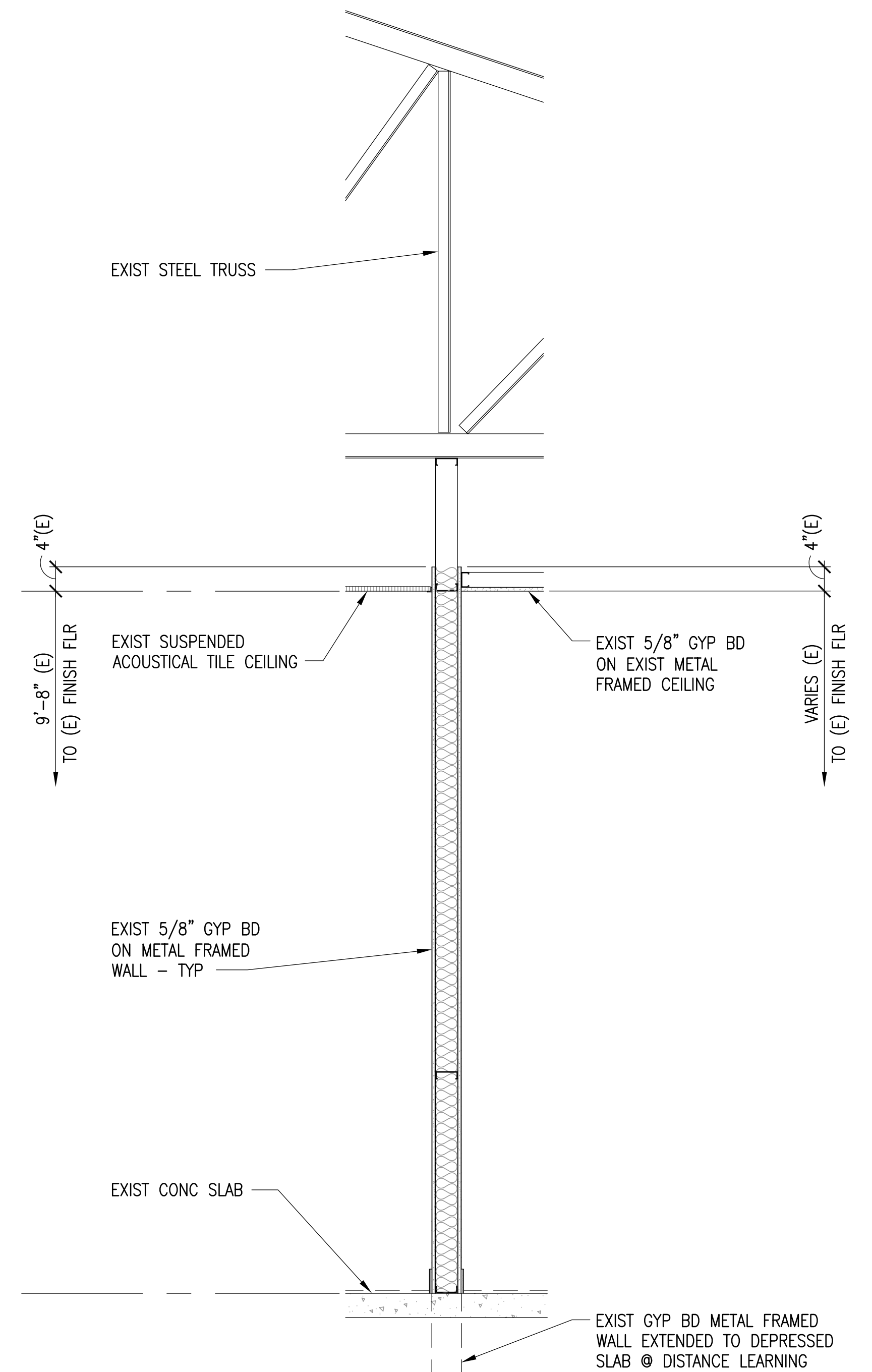
Date: Ploctech Mon, 31 Jul 2023 - 5:04pm  
 File Name: \\proj\proj\Projects\21000.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A601\_classroom\_wall\_sections.dwg



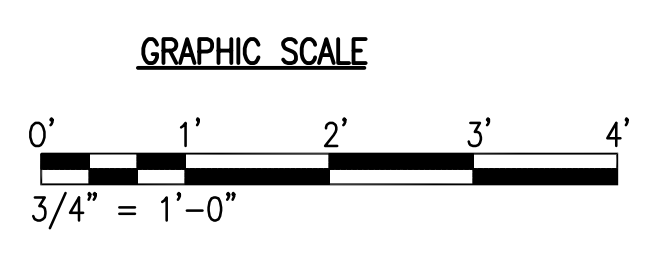
**3** TYPICAL (E) 1-HR HALLWAY ASSEMBLY  
 A601 SCALE: 3/4" = 1'-0"



**2** TYPICAL (E) 1-HR WALL SECTION  
 A601 SCALE: 3/4" = 1'-0"

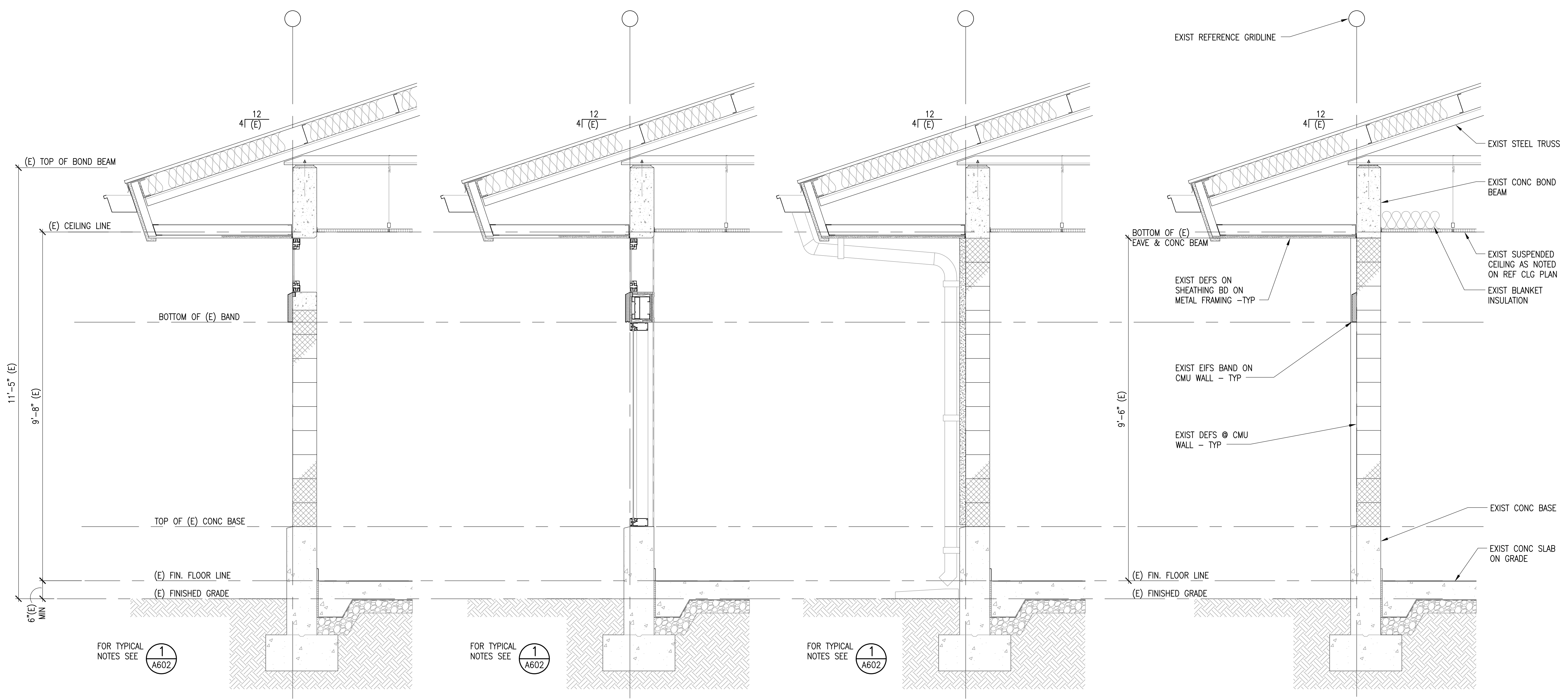


**1** TYPICAL (E) PARTITION WALL SECTION  
 A601 SCALE: 3/4" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>CLASSROOM - WALL SECTIONS</b>					
		ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG		JOB NO. CA-202006-C	DRAWING NO. <b>A601</b>
		CHECKED BY: DK APPROVED BY: DK SIGNATURE: <i>[Signature]</i> License Exp: 04/30/2024		DATE AUG 03, 2023	SHEET <b>20</b> OF 45 SHEETS
SCALE: AS NOTED					

Date: 07/31/2023 5:05pm  
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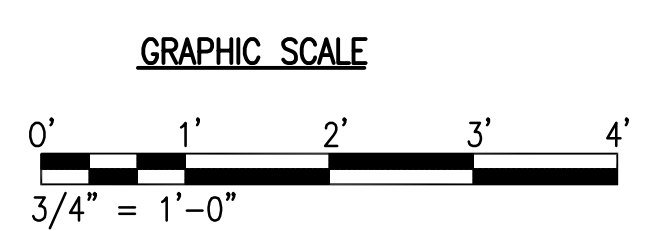


**4** TYPICAL (E) WALL SECTION (OPENING)  
 A602 SCALE: 3/4" = 1'-0"

**3** TYPICAL (E) WALL SECTION (OPENING)  
 A602 SCALE: 3/4" = 1'-0"

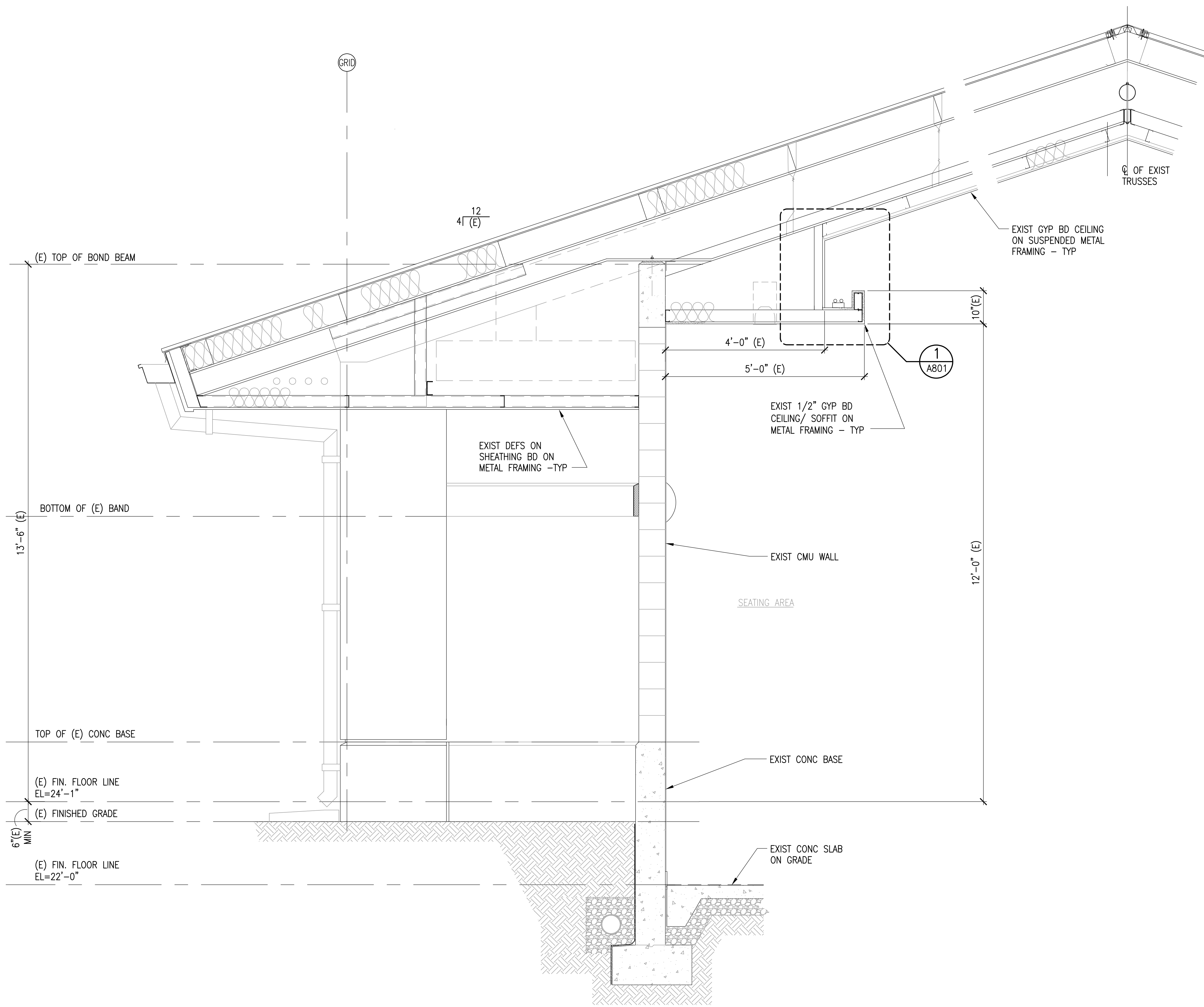
**2** TYPICAL (E) WALL SECTION (FALSE COLUMN)  
 A602 SCALE: 3/4" = 1'-0"

**1** TYPICAL (E) WALL SECTION  
 A602 SCALE: 3/4" = 1'-0"

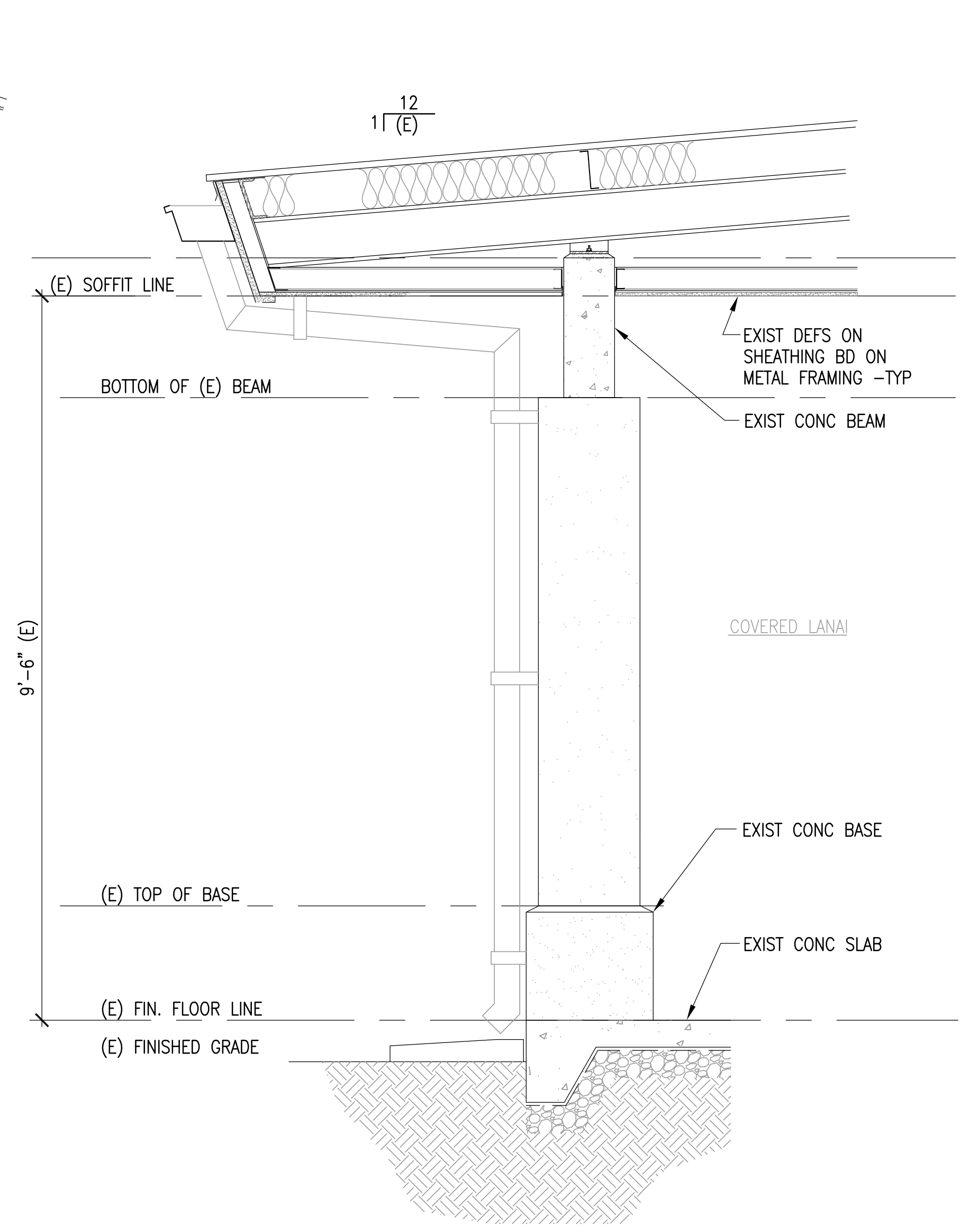


REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>WALL SECTIONS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO.	DRAWING NO.
DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK		CA-202006-C	<b>A602</b>
SIGNATURE: License Exp: 04/30/2024		SCALE: AS NOTED		DATE: AUG 03, 2023	SHEET <b>21</b> OF 45 SHEETS

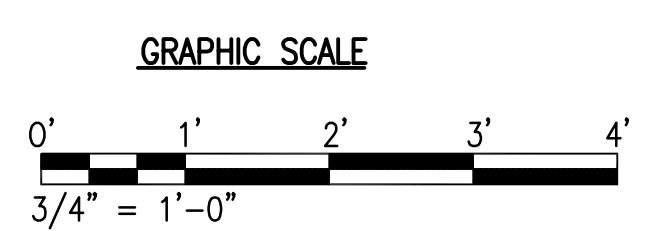
Date: P:\projects\31-Jul-2023 - 5:07pm  
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 Projects\21000.0000\Drawings\Arch\A603\_wall\_sections.dwg



**2** TYPICAL EXIST WALL SECTION  
 A603 SCALE: 3/4" = 1'-0"

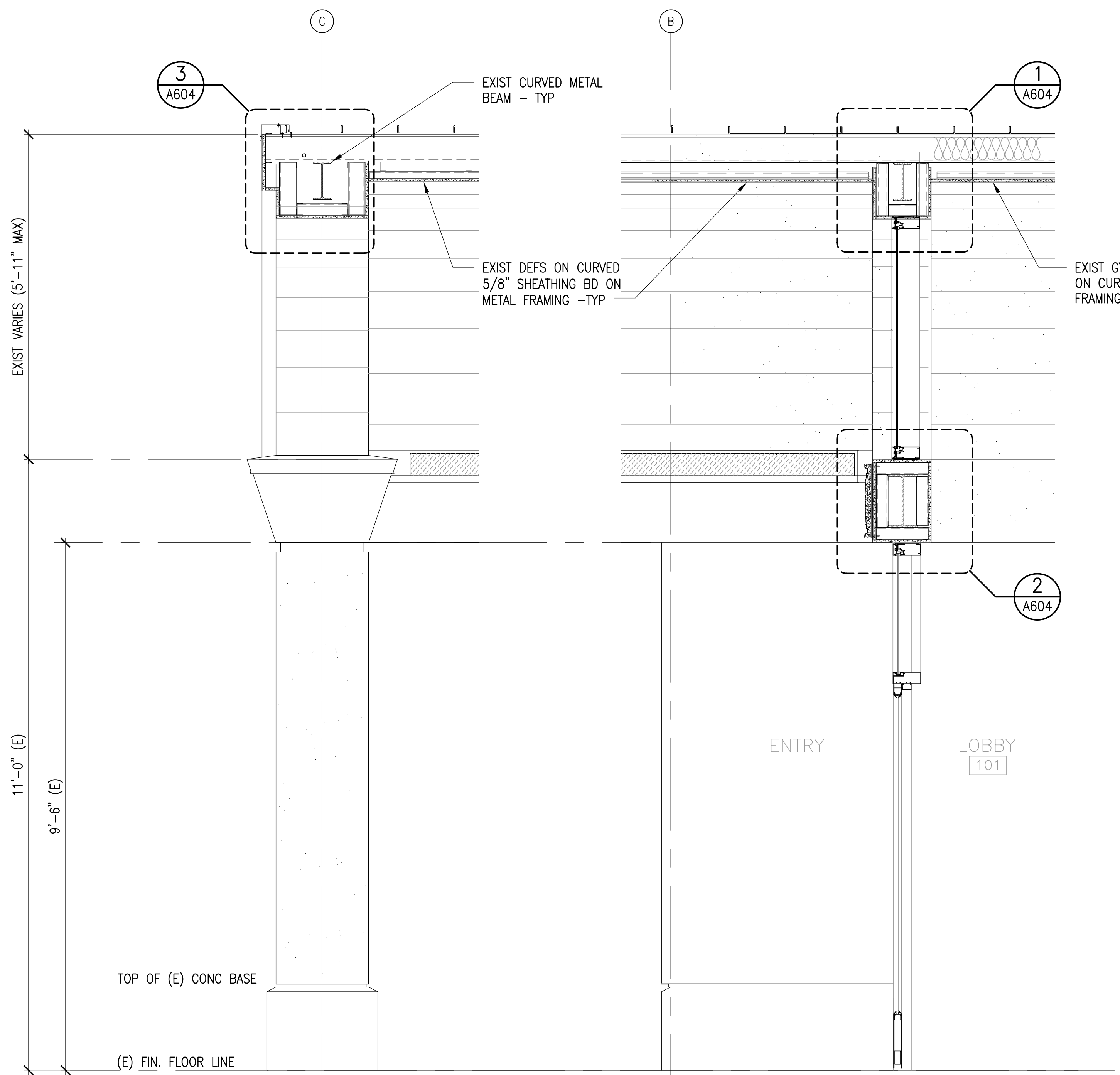


**1** SECTION @ (E) COVERED LANAI  
 A603 SCALE: 3/4" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII <b>WALL SECTIONS</b>					
		ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK DATE: AUG 03, 2023	
SIGNATURE License Exp: 04/30/2024		JOB NO. CA-202006-C DRAWING NO. A603 SHEET 22 OF 45 SHEETS		SCALE: AS NOTED	

Date: PlotDate: Mon, 31 Jul 2023 - 5:08pm  
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EXIST VARIES (5'-11" MAX)

11'-0" (E)  
9'-6" (E)

TOP OF (E) CONC BASE

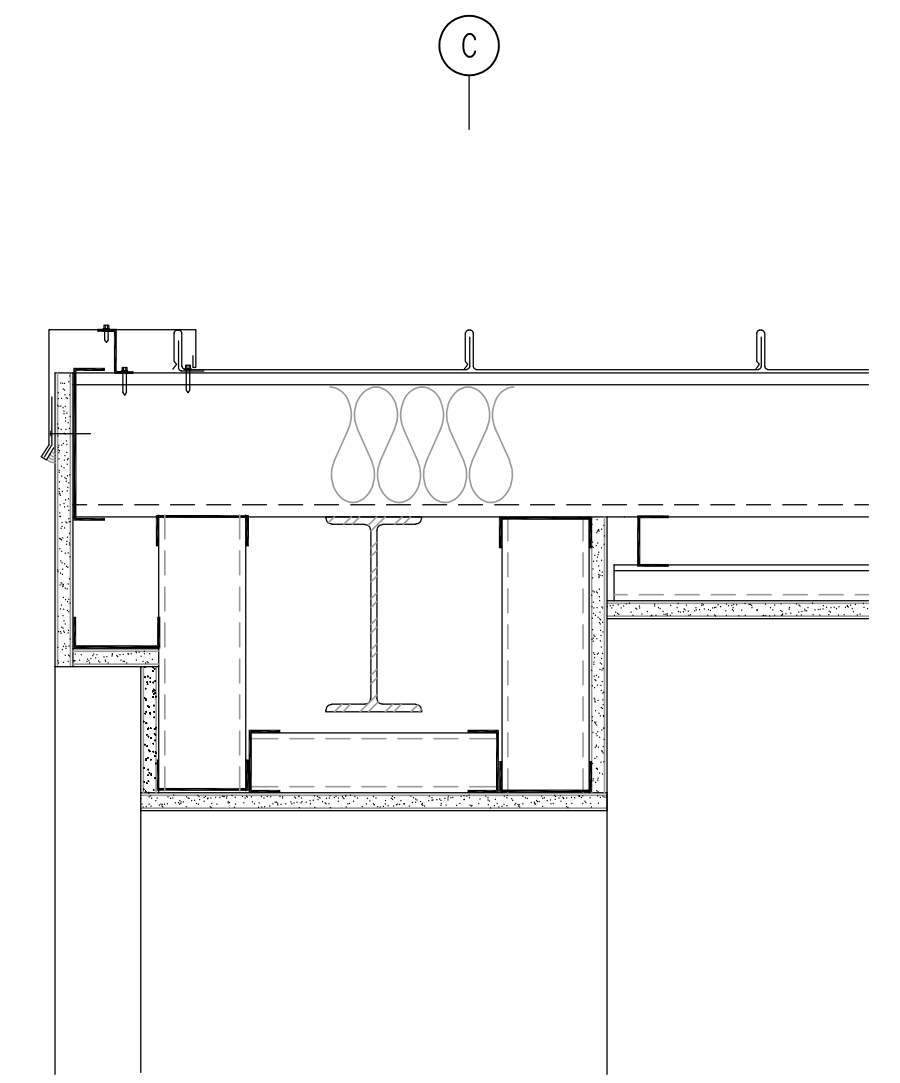
(E) FIN. FLOOR LINE

ENTRY

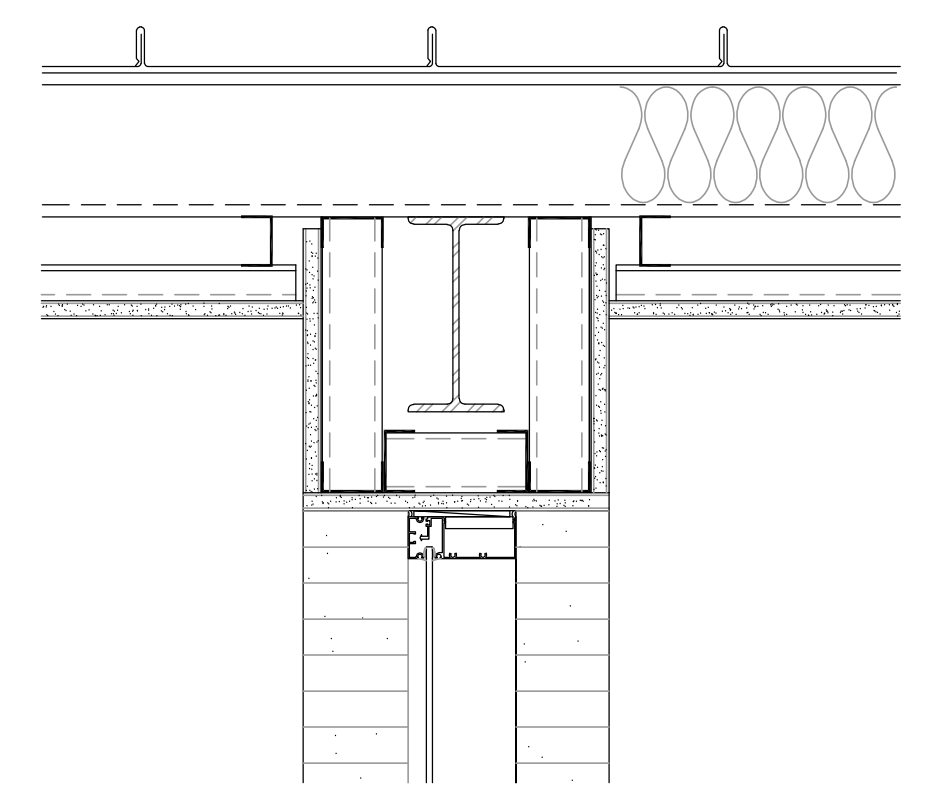
LOBBY  
101

**5 (E) SECTION AT END COLUMN**  
 A604 SCALE: 3/4" = 1'-0"

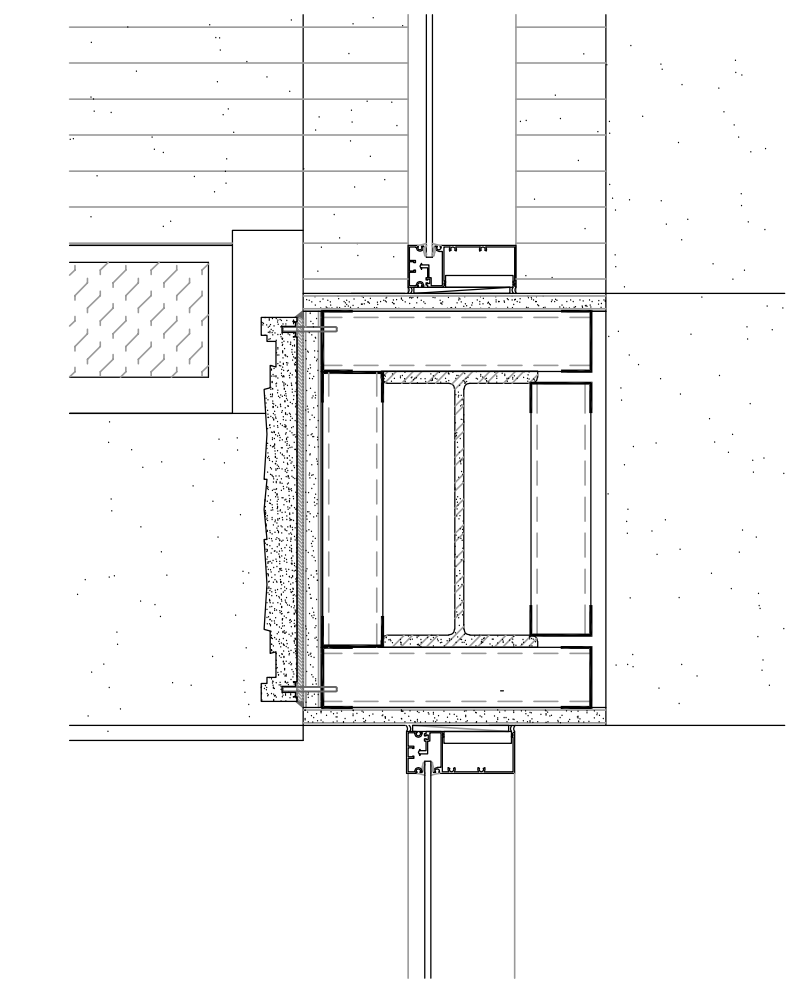
**4 (E) SECTION AT STOREFRONT**  
 A604 SCALE: 3/4" = 1'-0"



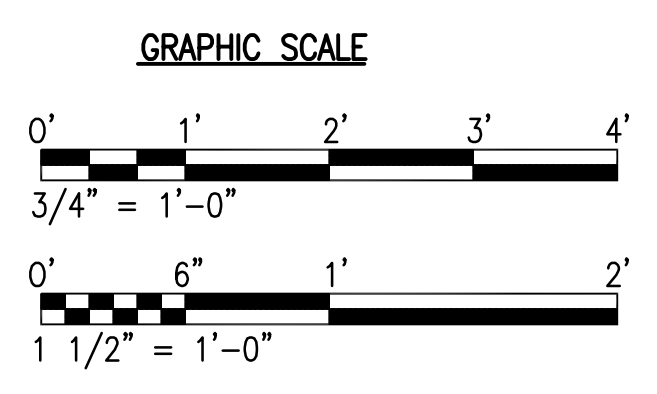
**3 (E) DETAIL @ RAKE**  
 A604 SCALE: 1 1/2" = 1'-0"



**1 (E) DETAIL @ HEAD**  
 A604 SCALE: 1 1/2" = 1'-0"

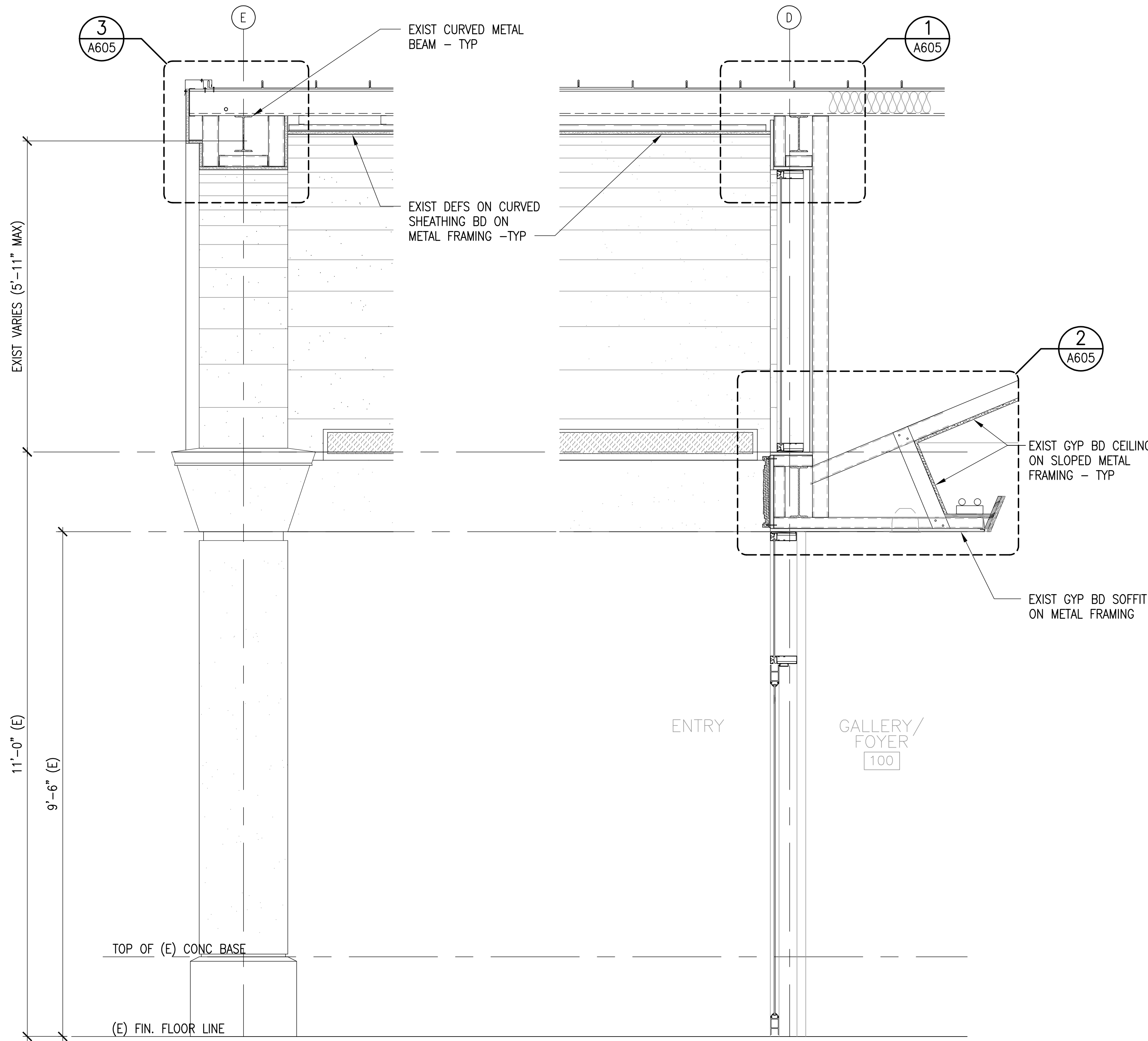


**2 (E) DETAIL @ DOOR FRAME**  
 A604 SCALE: 1 1/2" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>WALL SECTIONS, DETAILS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. CA-202006-C	DRAWING NO. <b>A604</b>
DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK		DATE	SHEET <b>23</b>
SIGNATURE  License Exp: 04/30/2024		SCALE: AS NOTED		AUG 03, 2023	OF 45 SHEETS

Date: P:\projects\31-Jul-2023 - 5:09pm  
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 Projects\21000.0000\Drawings\Arch\4\_A605\_wall\_sections\_dets.dwg



EXIST VARIES (5'-11" MAX)

11'-0" (E)  
9'-6" (E)

TOP OF (E) CONC BASE

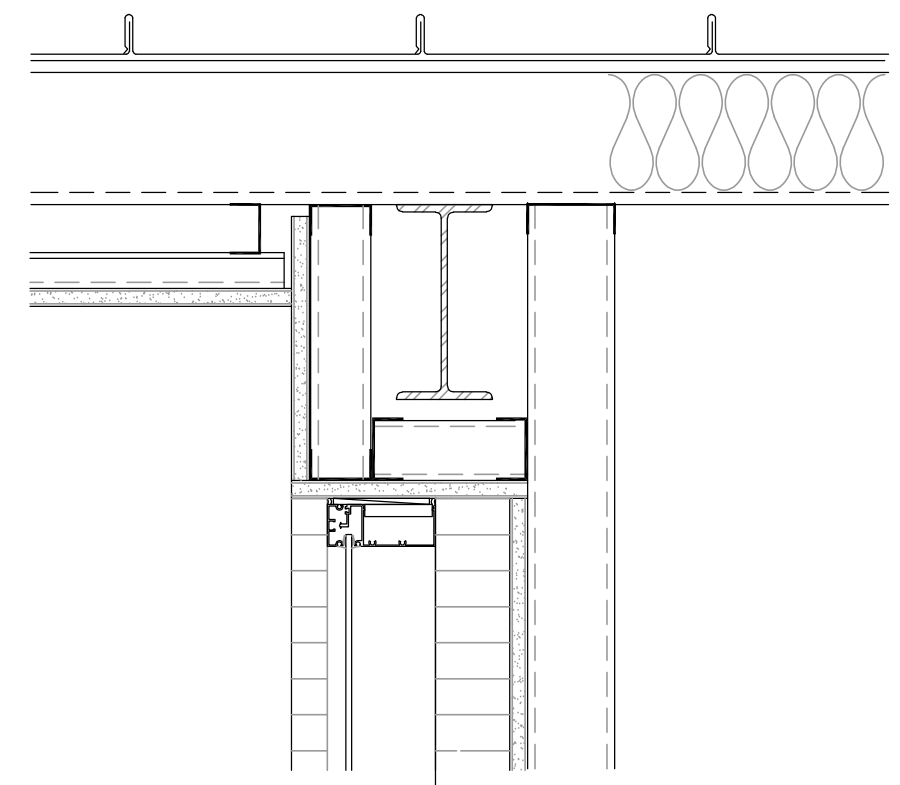
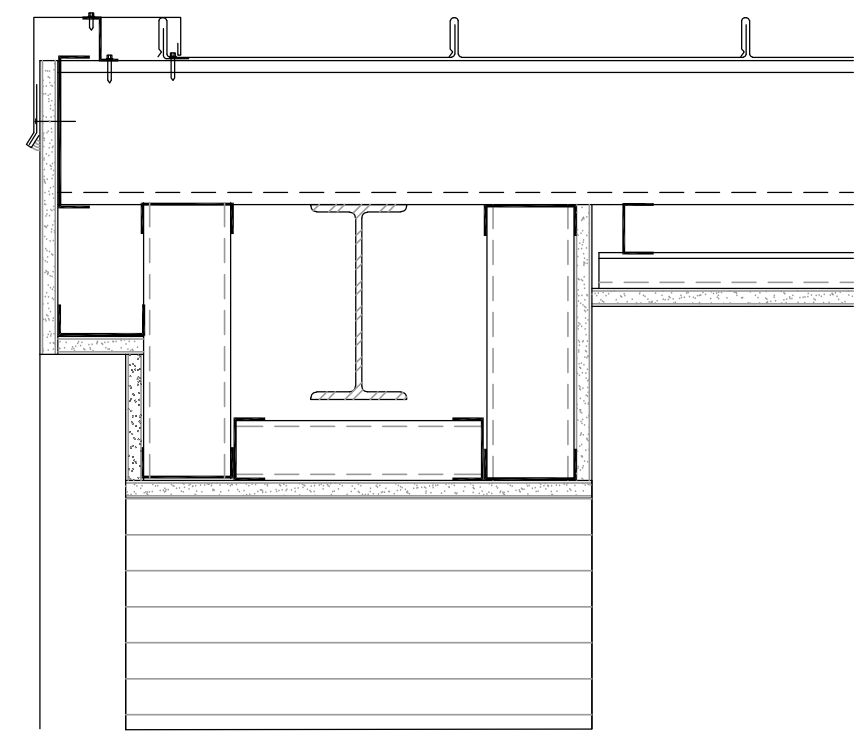
(E) FIN. FLOOR LINE

ENTRY

GALLERY/  
FOYER  
100

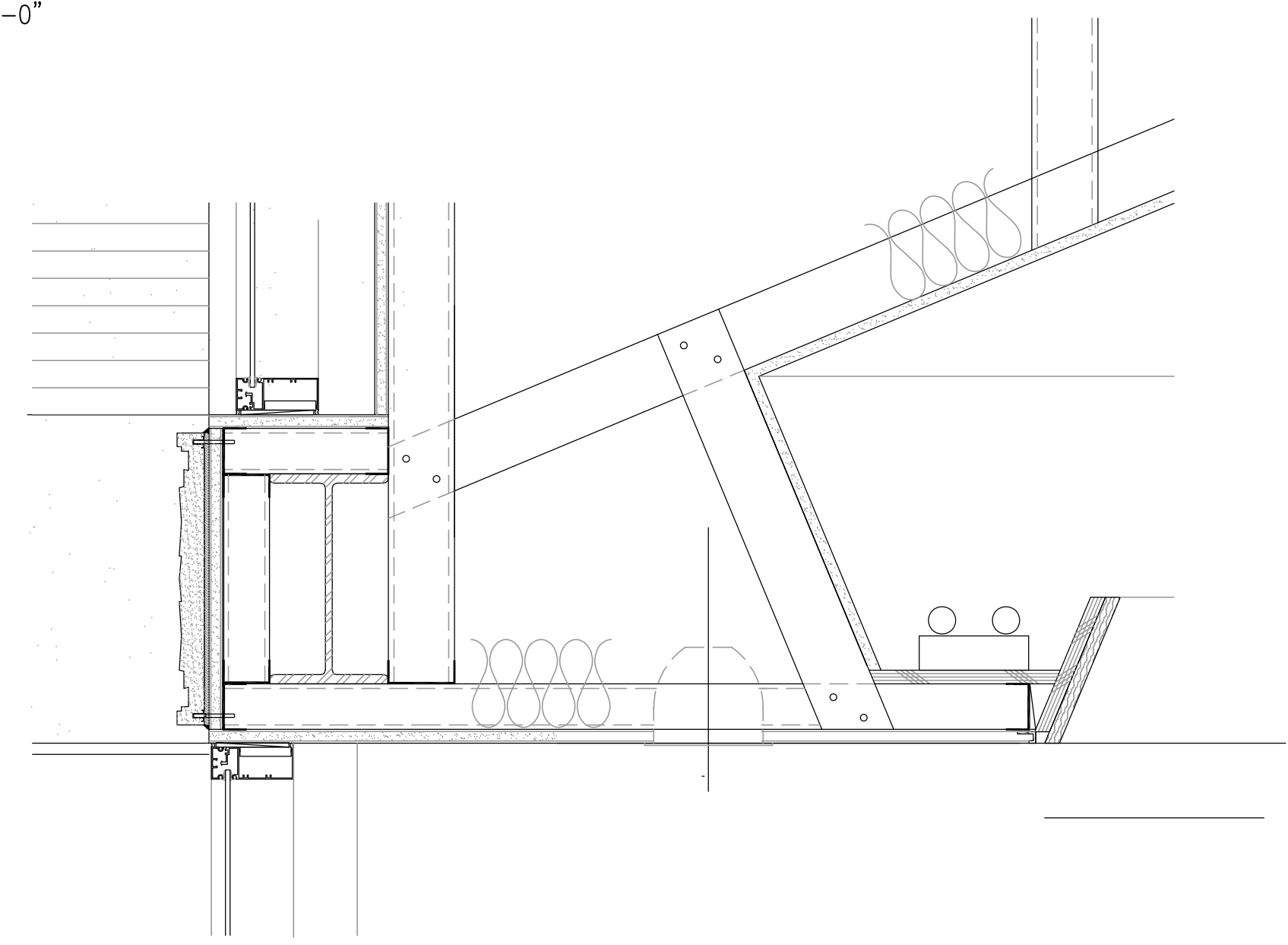
**5 (E) SECTION AT END COLUMN**  
A605 SCALE: 3/4" = 1'-0"

**4 (E) SECTION AT STOREFRONT**  
A605 SCALE: 3/4" = 1'-0"

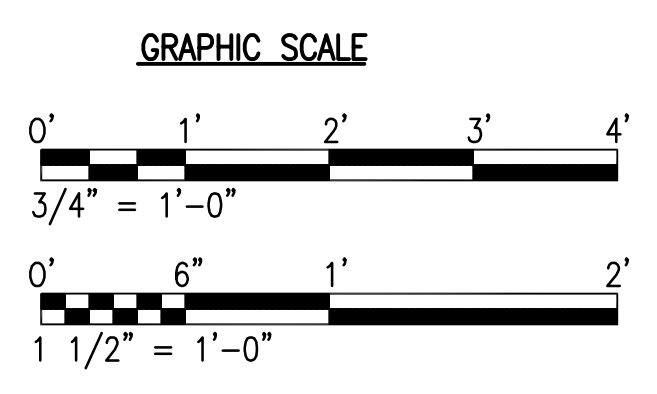


**1 (E) DETAIL @ HEAD**  
A605 SCALE: 1 1/2" = 1'-0"

**3 (E) DETAIL @ RAKE**  
A605 SCALE: 1 1/2" = 1'-0"

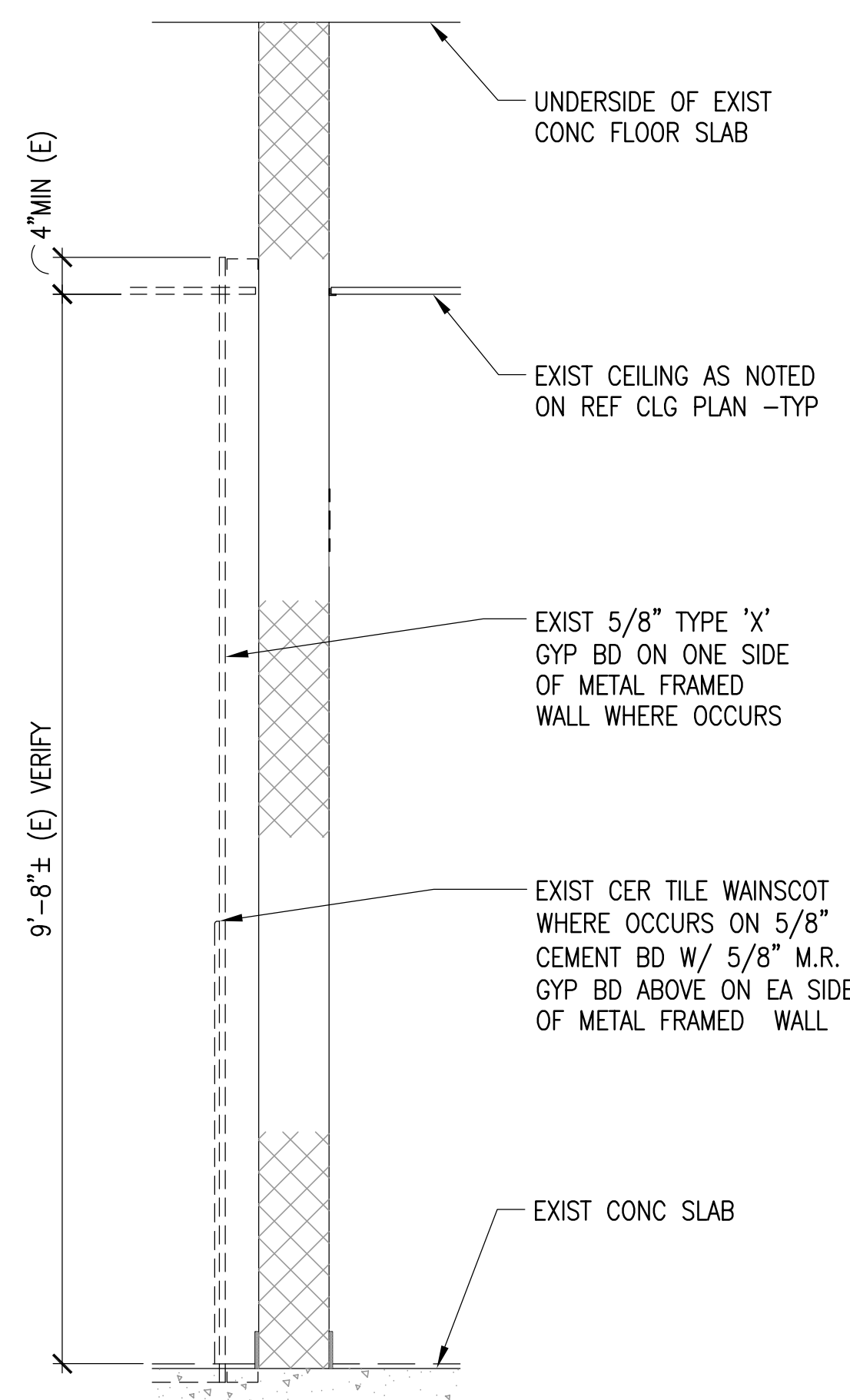


**2 (E) DETAIL @ DOOR FRAME**  
A605 SCALE: 1 1/2" = 1'-0"

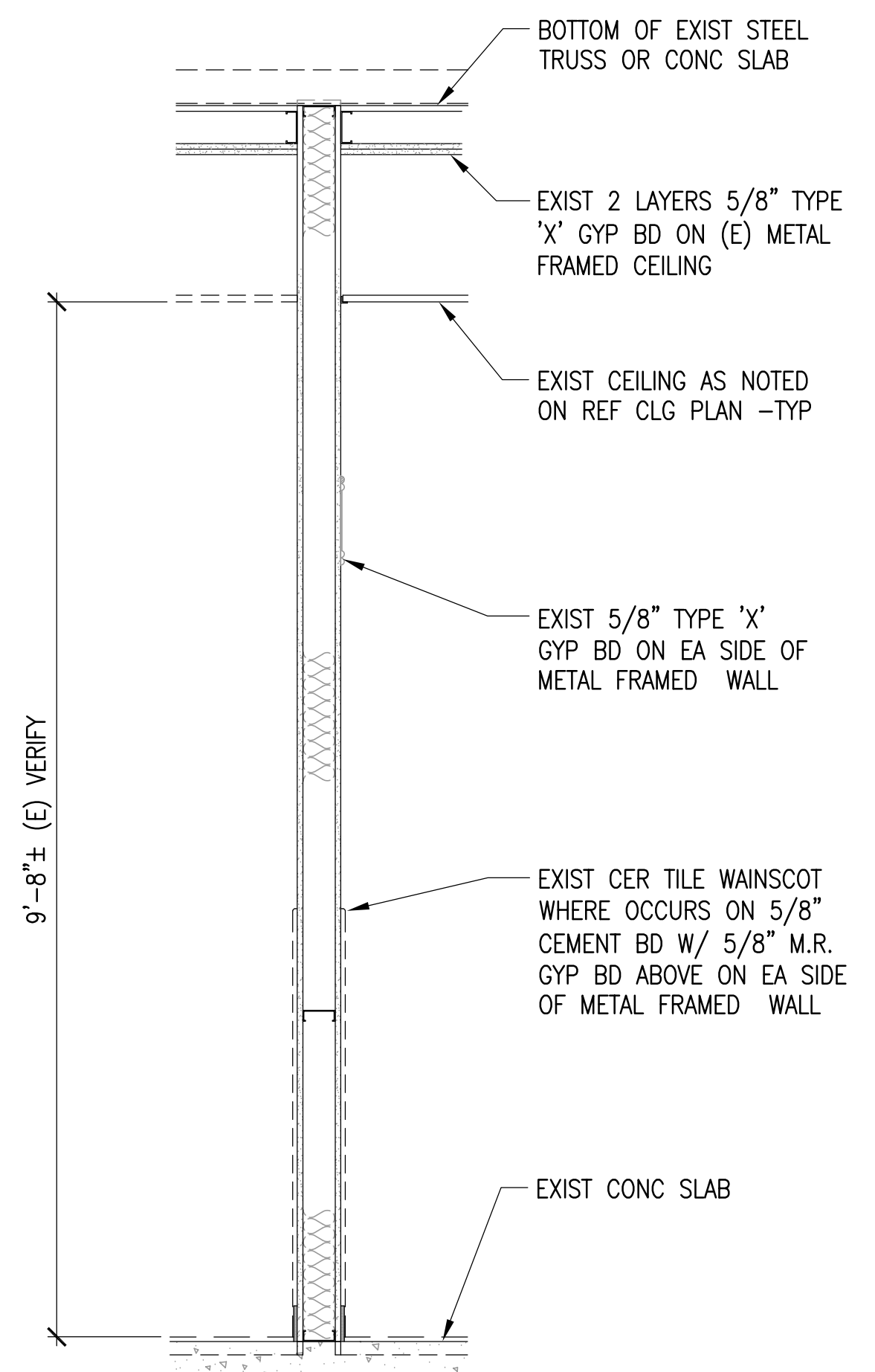


REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>WALL SECTIONS, DETAILS</b>					
ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG			CHECKED BY: DK APPROVED BY: DK		JOB NO. CA-202006-C DATE AUG 03, 2023
SIGNATURE  License Exp: 04/30/2024			SCALE: AS NOTED		DRAWING NO. <b>A605</b> SHEET <b>24</b> OF 45 SHEETS

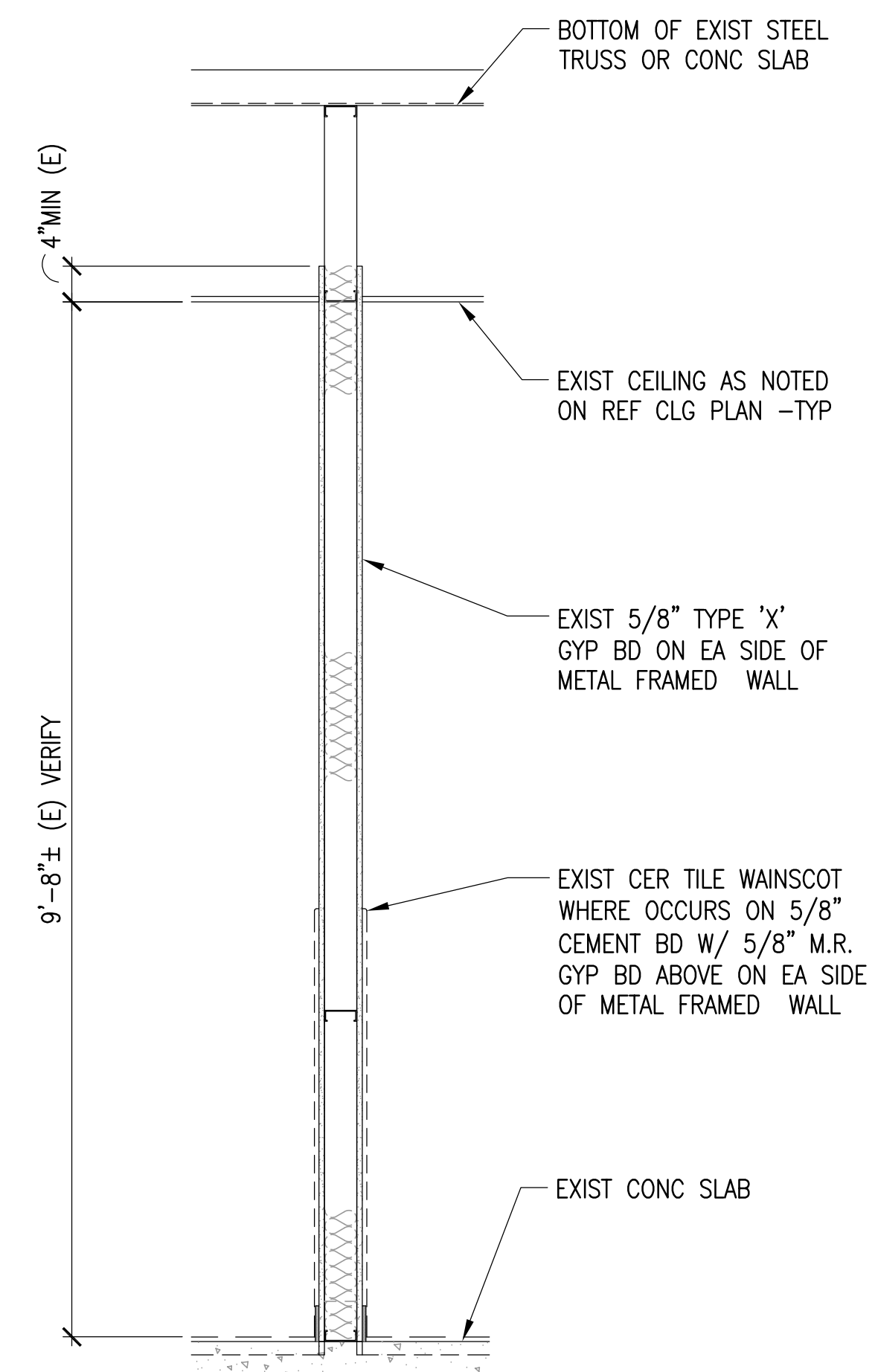
Date: PloctechMon\_31-Jul-2023 - 5:10pm  
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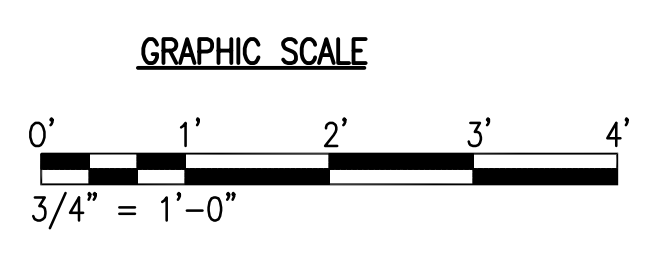
**4** TYPICAL (E) CMU WALL SECTION  
 A605 SCALE: 3/4" = 1'-0"



**3** TYPICAL (E) 1-HR WALL SECTION  
 A605 SCALE: 3/4" = 1'-0"



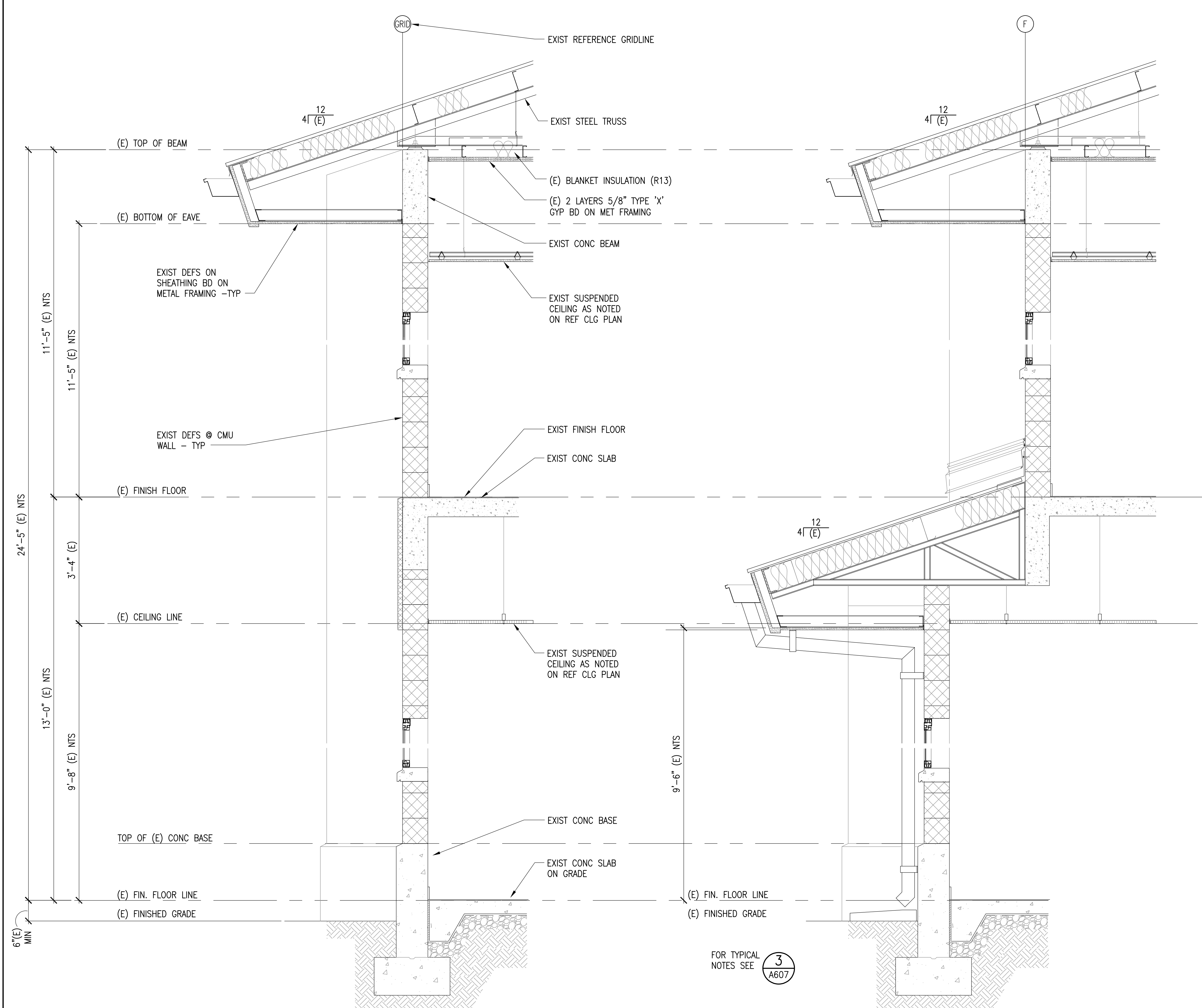
**2** TYPICAL (E) PARTITION WALL SECTION  
 A605 SCALE: 3/4" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>ADMINISTRATION - WALL SECTIONS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO.	DRAWING NO.
		DESIGNED BY: CEI	CHECKED BY: DK	CA-202006-C	<b>A606</b>
		DRAWN BY: GG	APPROVED BY: DK	DATE	SHEET
		SCALE: AS NOTED	AUG 03, 2023	25	
OF 45 SHEETS					



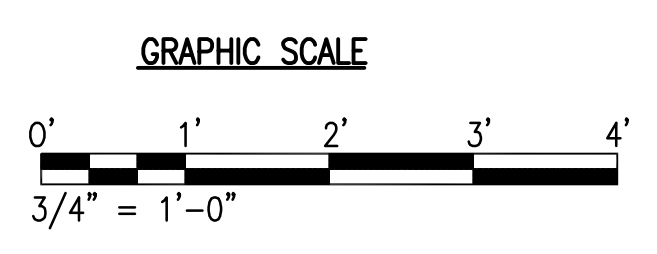
Date: Ploctech Mon, 31 Jul 2023 - 5:12pm  
File Name: \\proj\proj\Projects\21000.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A607\_wall\_sections.dwg



**3** TYPICAL (E) WALL SECTION (OPENING)  
SCALE: 3/4" = 1'-0"

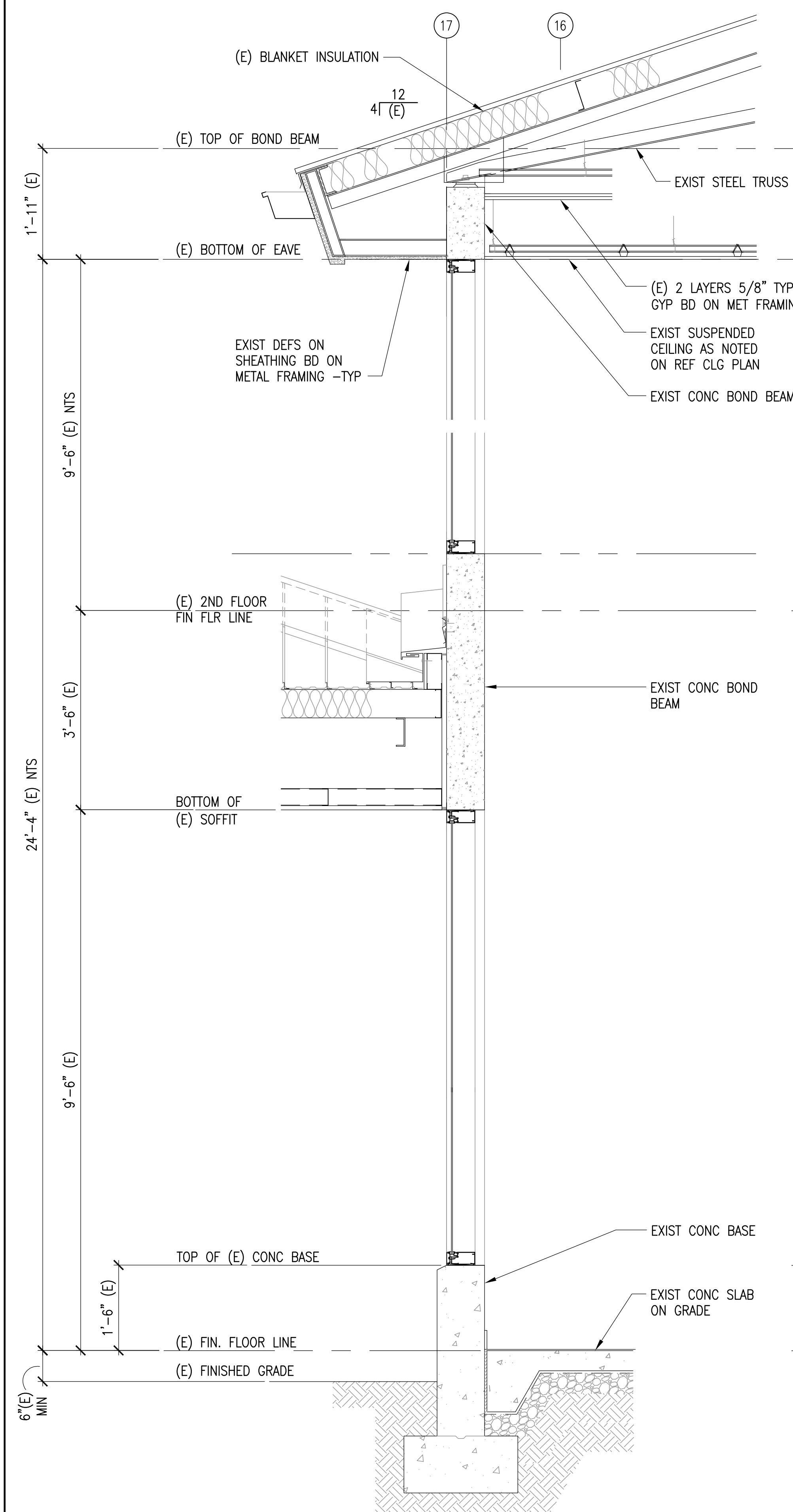
**2** TYPICAL (E) WALL SECTION (OPENING)  
SCALE: 3/4" = 1'-0"

FOR TYPICAL NOTES SEE **3** A607

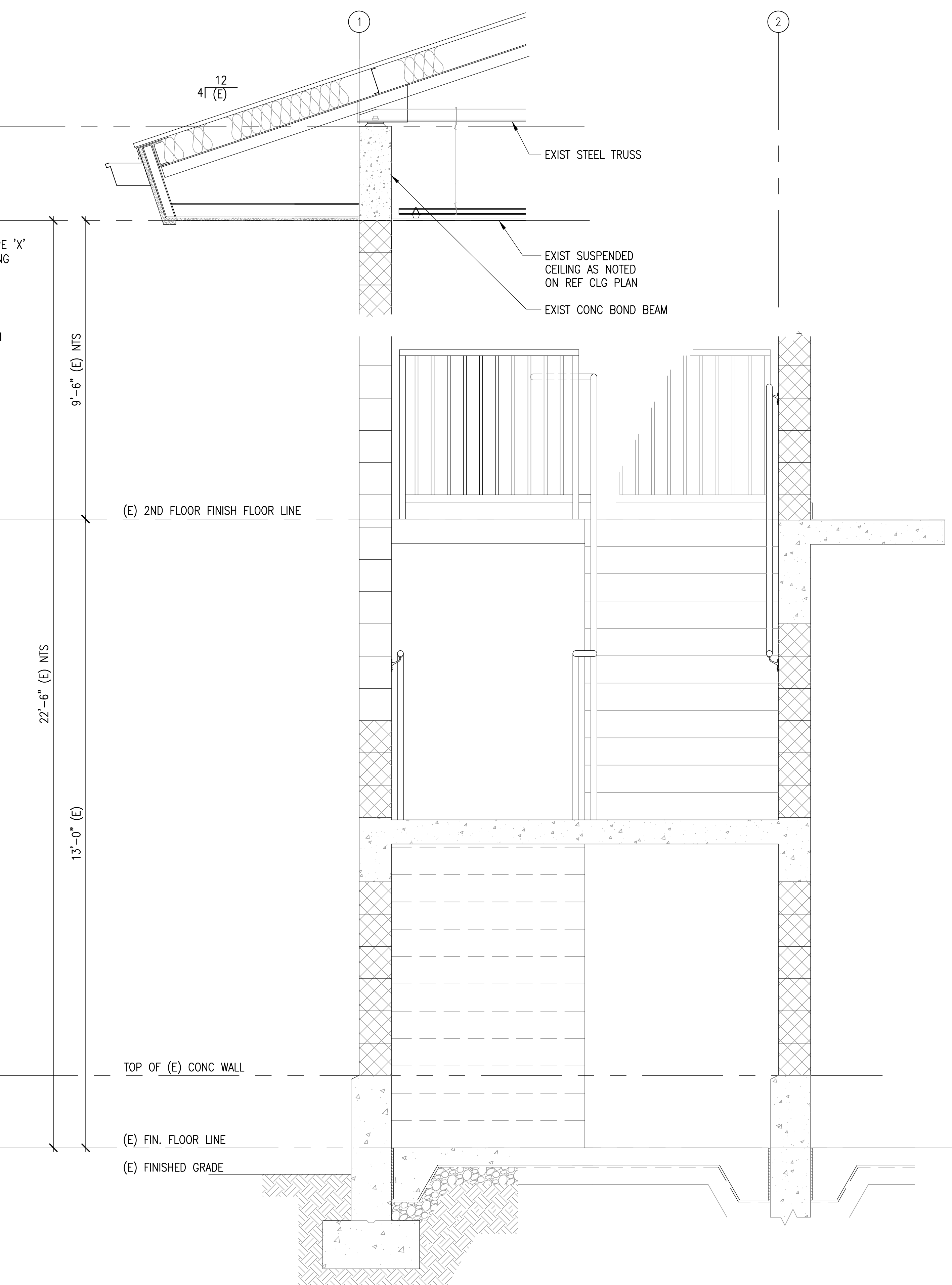


REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  <b>WALL SECTIONS</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. CA-202006-C	DRAWING NO. <b>A607</b>
DESIGNED BY: CEI		CHECKED BY: DK		DATE	SHEET <b>26</b>
DRAWN BY: GG		APPROVED BY: DK		DATE AUG 03, 2023	OF 45 SHEETS
SIGNATURE  License Exp: 04/30/2024		SCALE: AS NOTED		FILE DRAWER FOLDER	

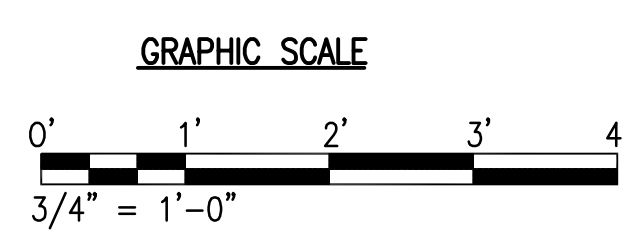
Date: PlotDate: Mon, 31 Jul 2023 - 5:13pm  
 File Name: \\proj\proj\Projects\21000.0000\Belows Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A608\_wall\_sections2.dwg



**3** TYPICAL (E) WALL SECTION (OPENING)  
 A608 SCALE: 3/4" = 1'-0"



**2** TYPICAL (E) WALL SECTION (OPENING)  
 A608 SCALE: 3/4" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

DRAKE D. KAU  
LICENSED PROFESSIONAL ARCHITECT  
No. 18616  
HAWAII U.S.A.

DEPARTMENT OF DEFENSE  
STATE OF HAWAII

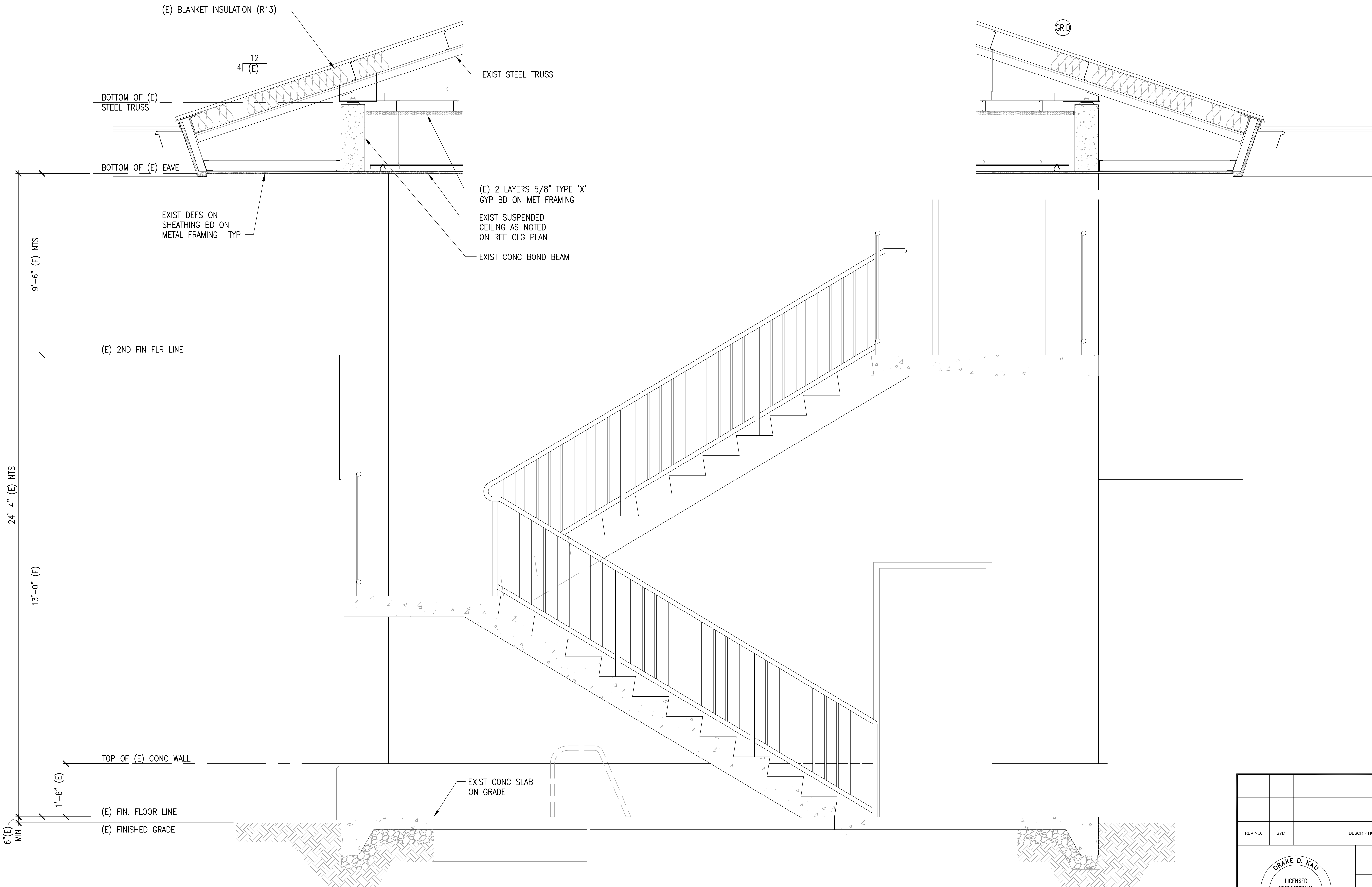
FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT

WAIMANALO, OAHU, HAWAII

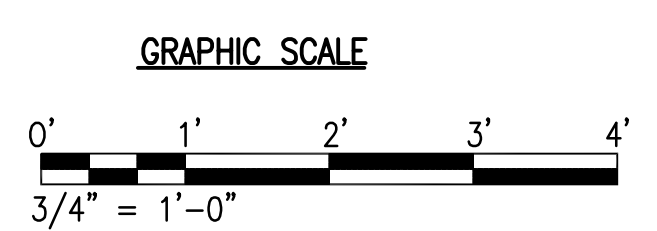
WALL SECTIONS

ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG	CHECKED BY: DK APPROVED BY: DK	JOB NO.: CA-202006-C DATE: AUG 03, 2023	DRAWING NO.: <b>A608</b> SHEET: <b>27</b> OF 45 SHEETS
SCALE: AS NOTED		SIGNATURE: <i>[Signature]</i> License Exp: 04/30/2024	

Date: 04/30/2023 5:19pm  
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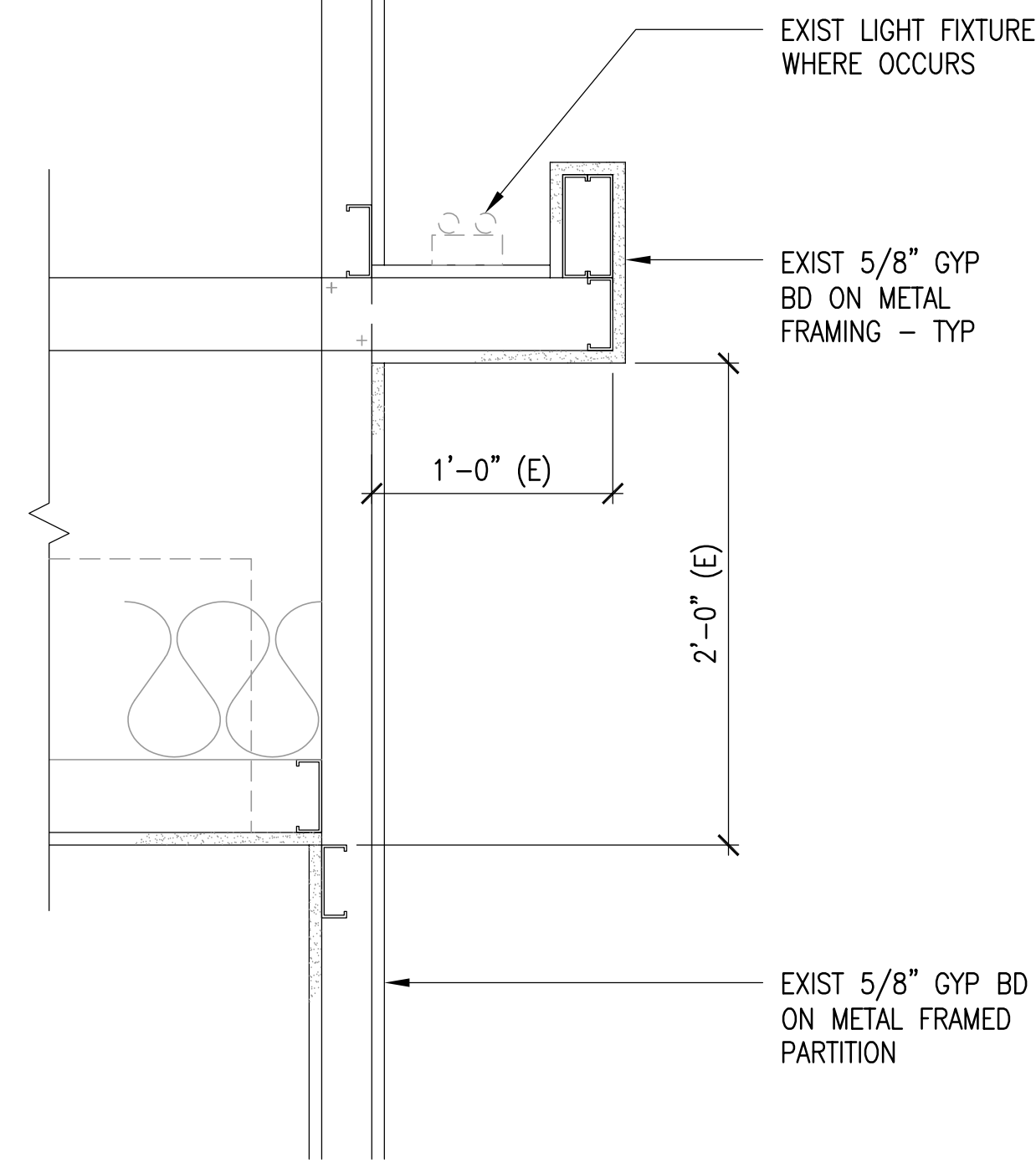


**1** TYPICAL SECTION THRU (E) EXTERIOR STAIR  
 A609 SCALE: 3/4" = 1'-0"

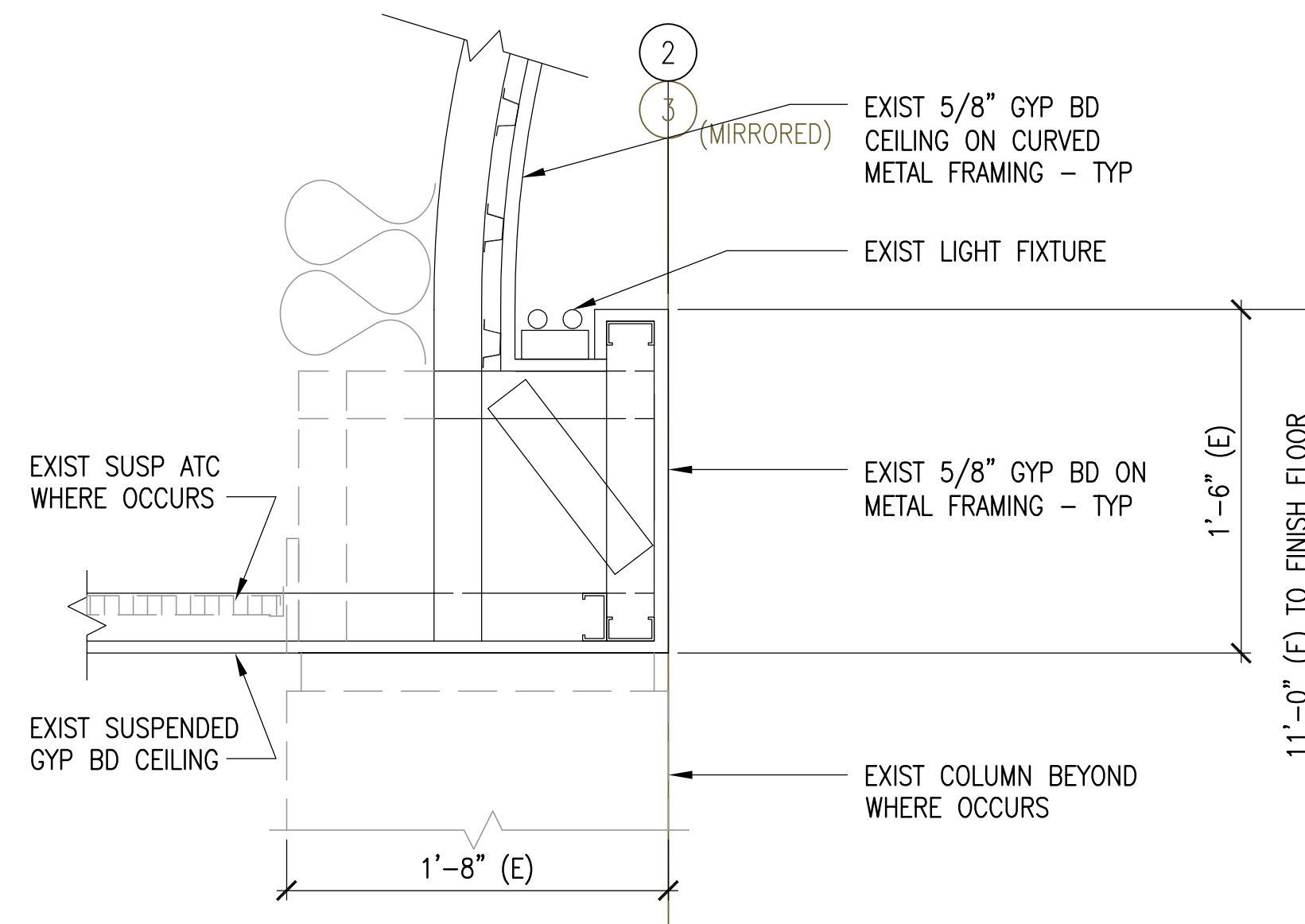


REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII <b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII <b>EXTERIOR STAIRS SECTION</b>					
		<b>ARCHITECTS PACIFIC, INC.</b>		JOB NO. <b>CA-202006-C</b>	
DESIGNED BY: CEI		CHECKED BY: DK		DATE <b>AUG 03, 2023</b>	
DRAWN BY: GG		APPROVED BY: DK			
SIGNATURE License Exp: 04/30/2024			<b>A609</b> SHEET <b>28</b> OF 45 SHEETS		
SCALE: AS NOTED			FILE DRAWER FOLDER		

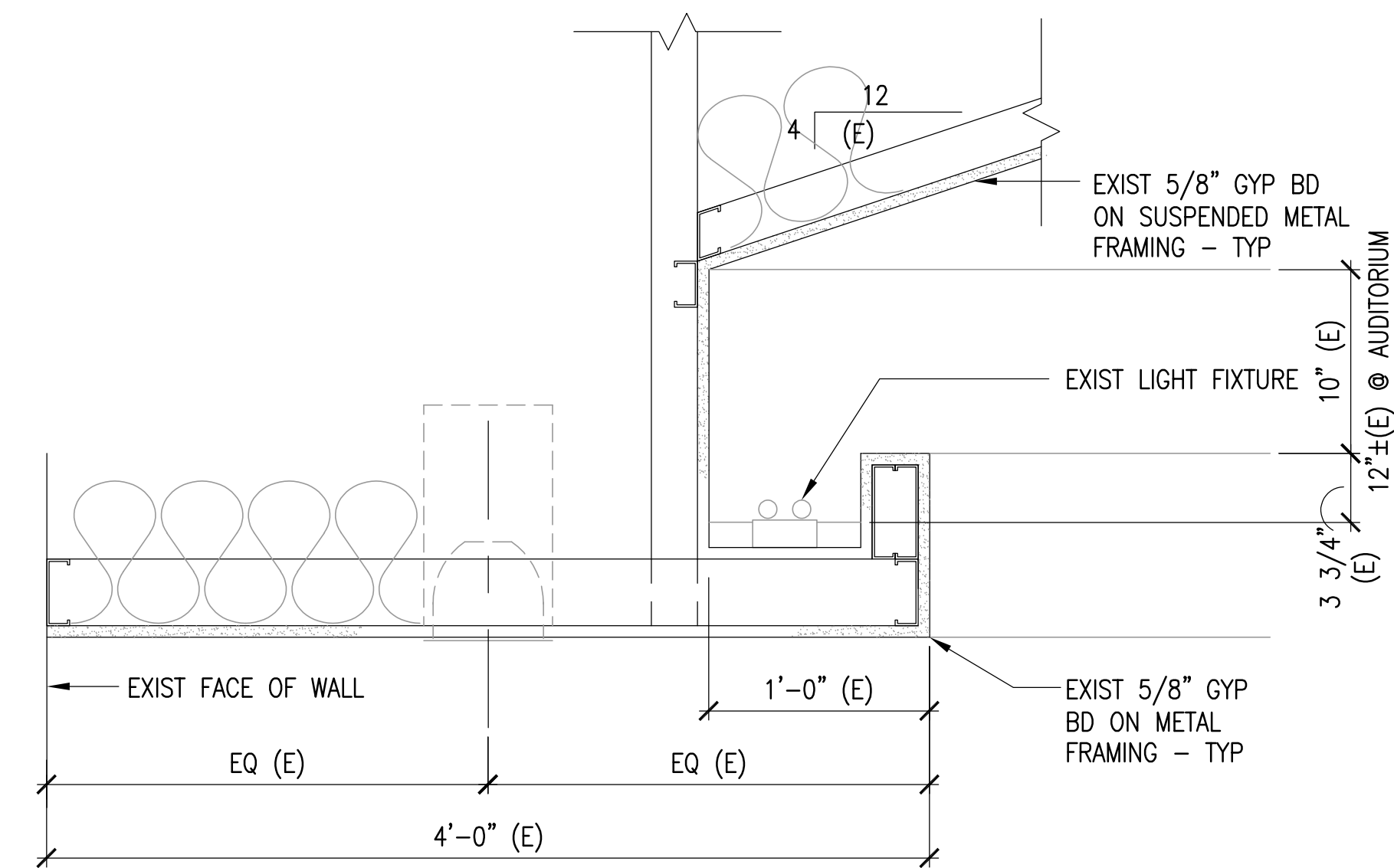
Date: Project: Mon, 31 Jul 2023 - 5:20pm  
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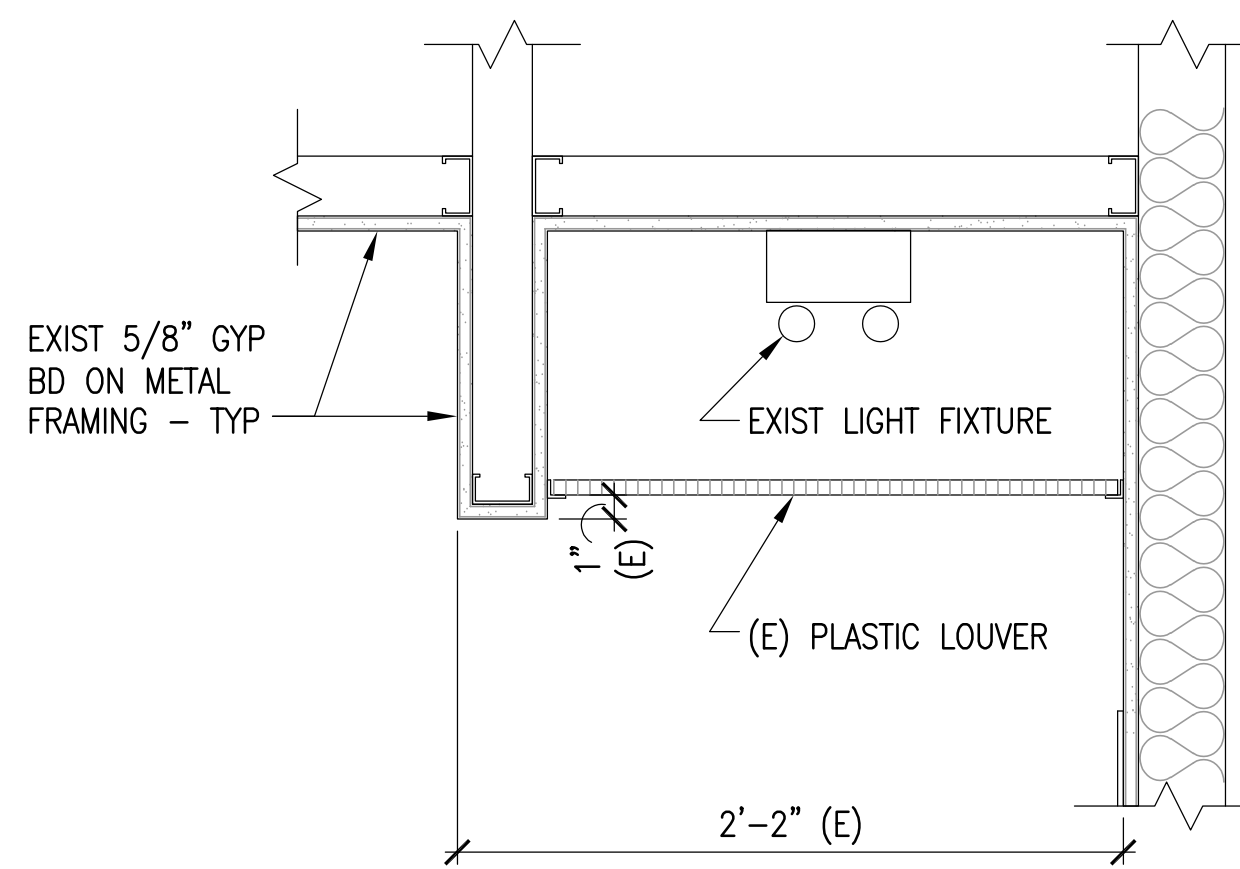
**5 (E) SOFFIT DETAIL**  
 A801 SCALE: 1 1/2" = 1'-0"



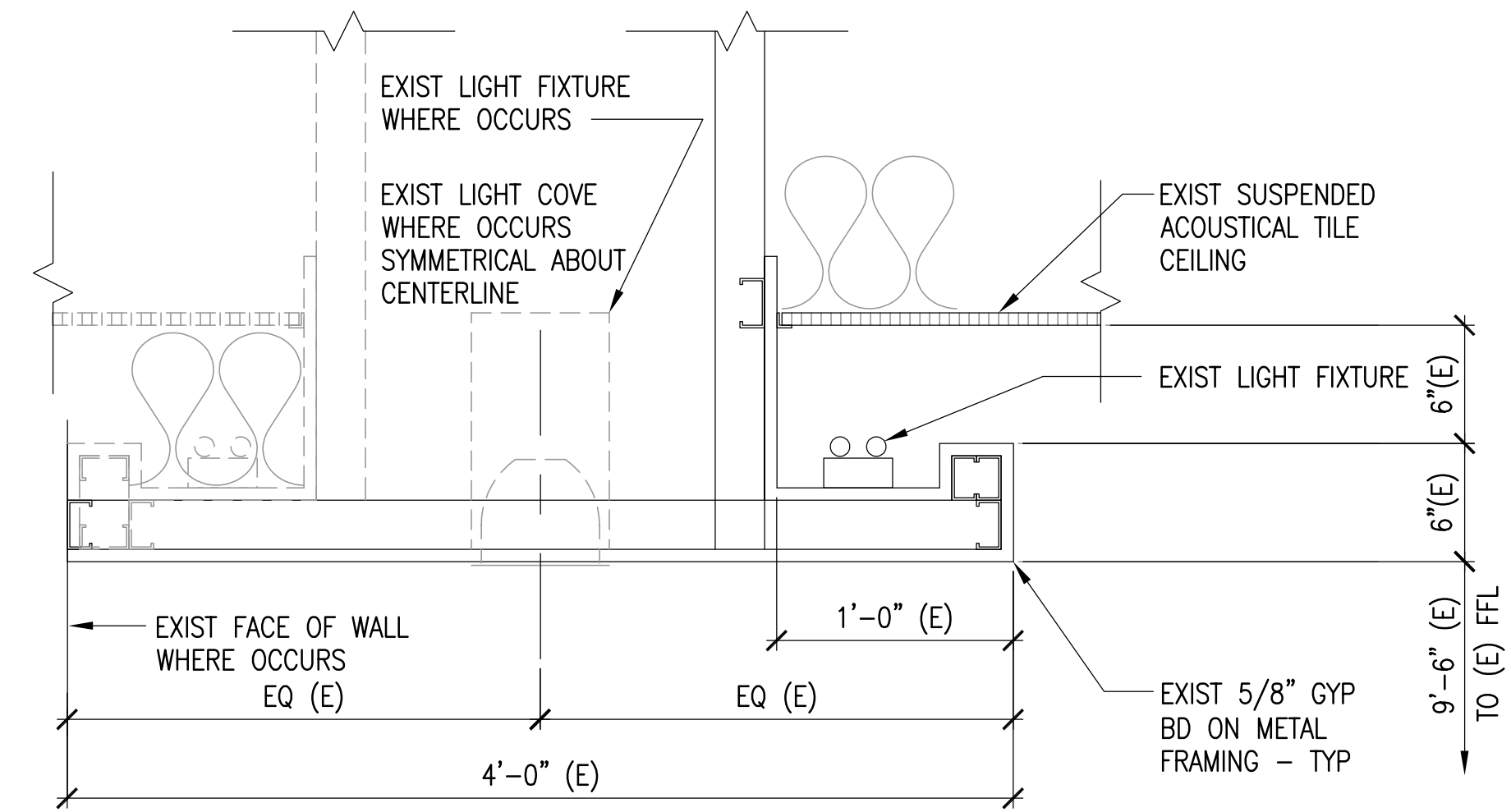
**3 (E) VAULTED CEILING LIGHT COVE**  
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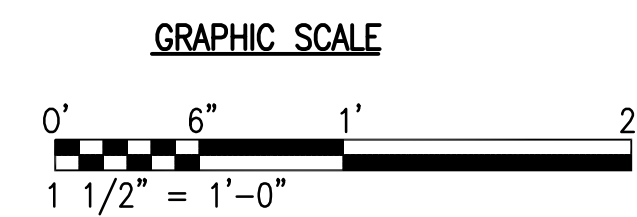
**1 (E) LIGHT COVE DETAIL**  
 A801 SCALE: 1 1/2" = 1'-0"




**4 (E) LIGHT VALANCE**  
 A801 SCALE: 1 1/2" = 1'-0"



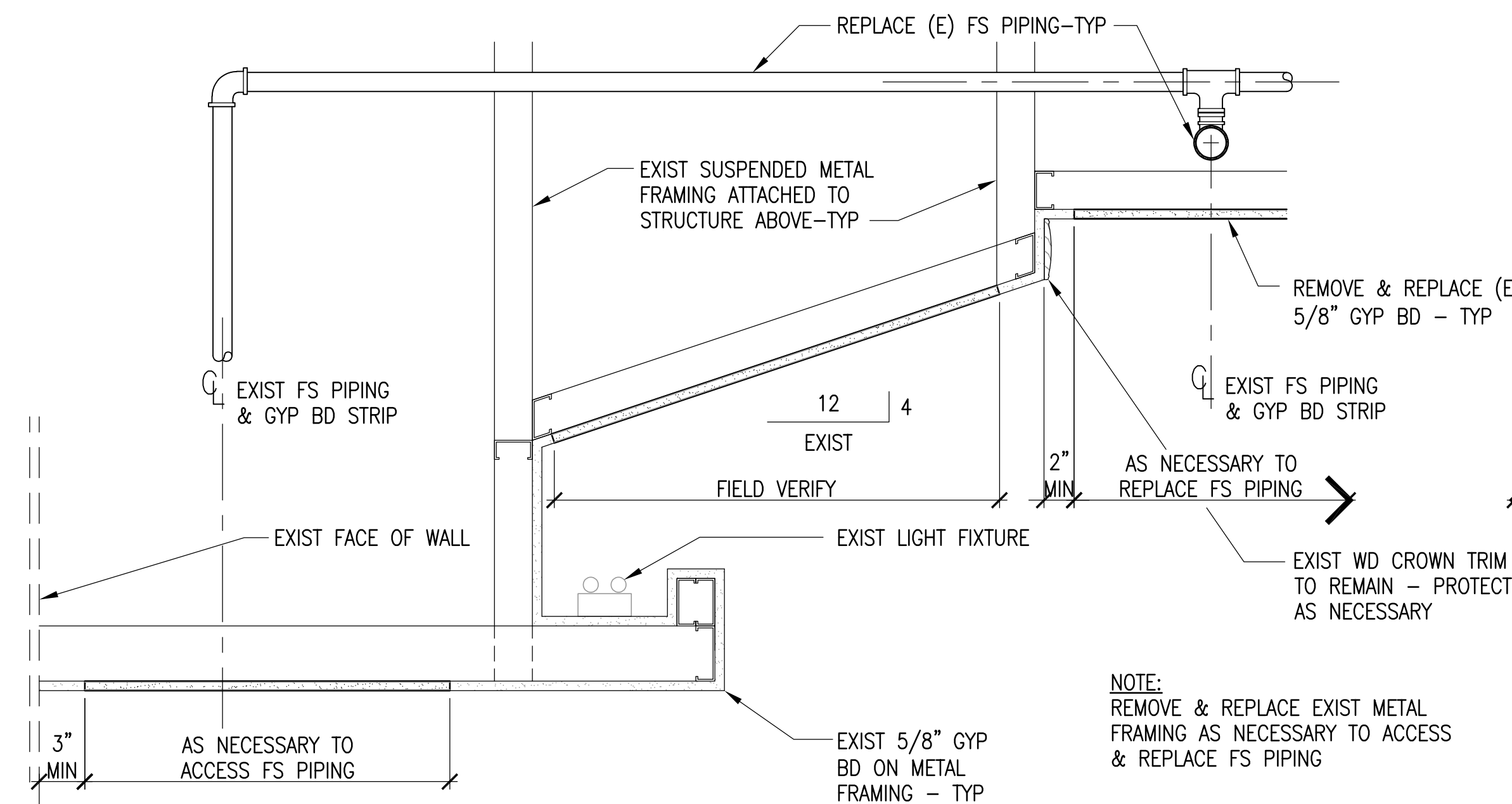
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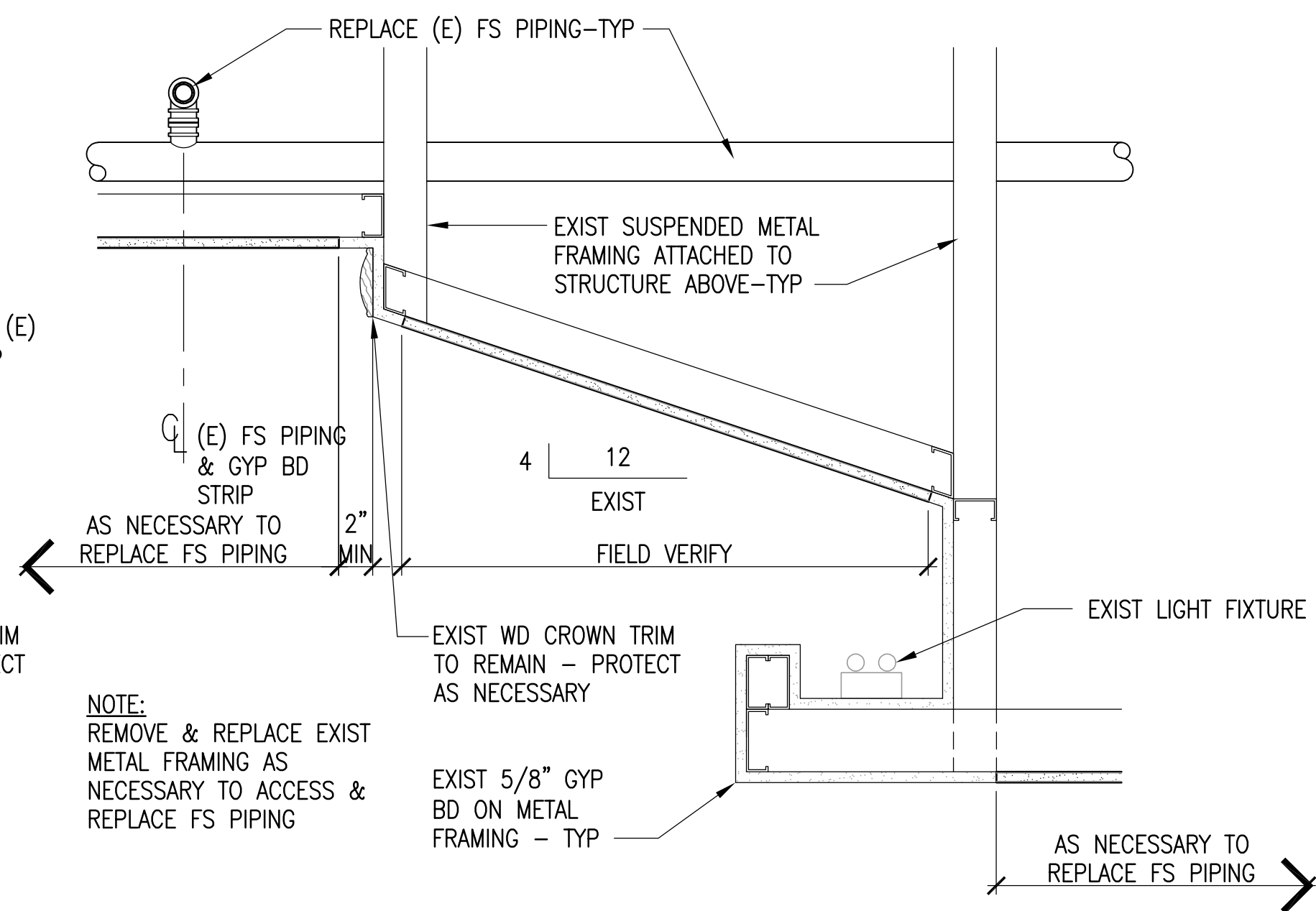
REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
					
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII					
<b>FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT</b>					
WAIMANALO, OAHU, HAWAII					
<b>SOFFIT DETAILS</b>					
ARCHITECTS PACIFIC, INC.			JOB NO. CA-202006-C	DRAWING NO. <b>A801</b>	
DESIGNED BY: CEI	CHECKED BY: DK	DATE	SHEET <b>29</b>		
DRAWN BY: GG	APPROVED BY: DK	DATE	OF 45 SHEETS		
SCALE: AS NOTED			AUG 03, 2023		

This work was prepared by me or under my supervision, and construction of this project will be under my observation.

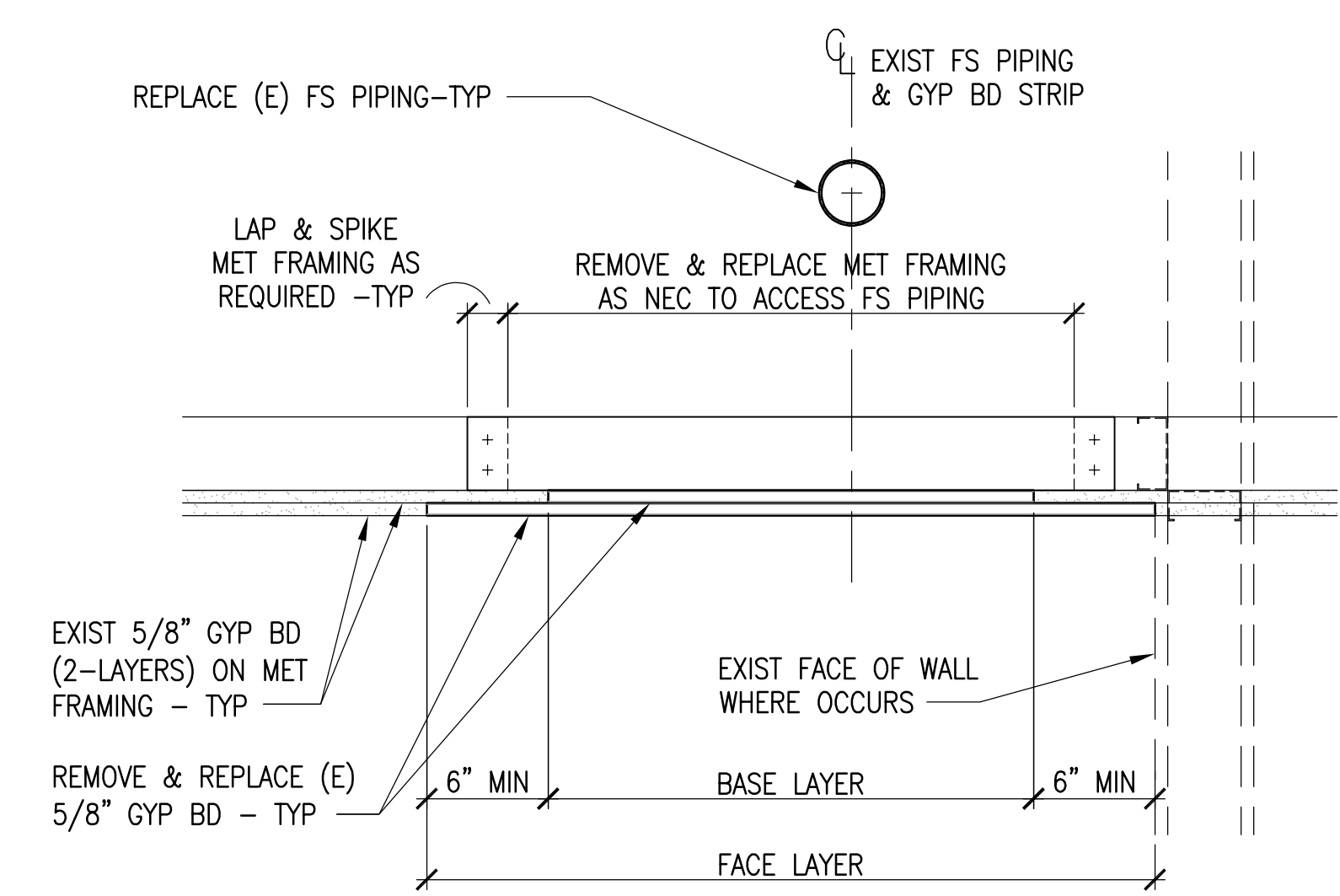
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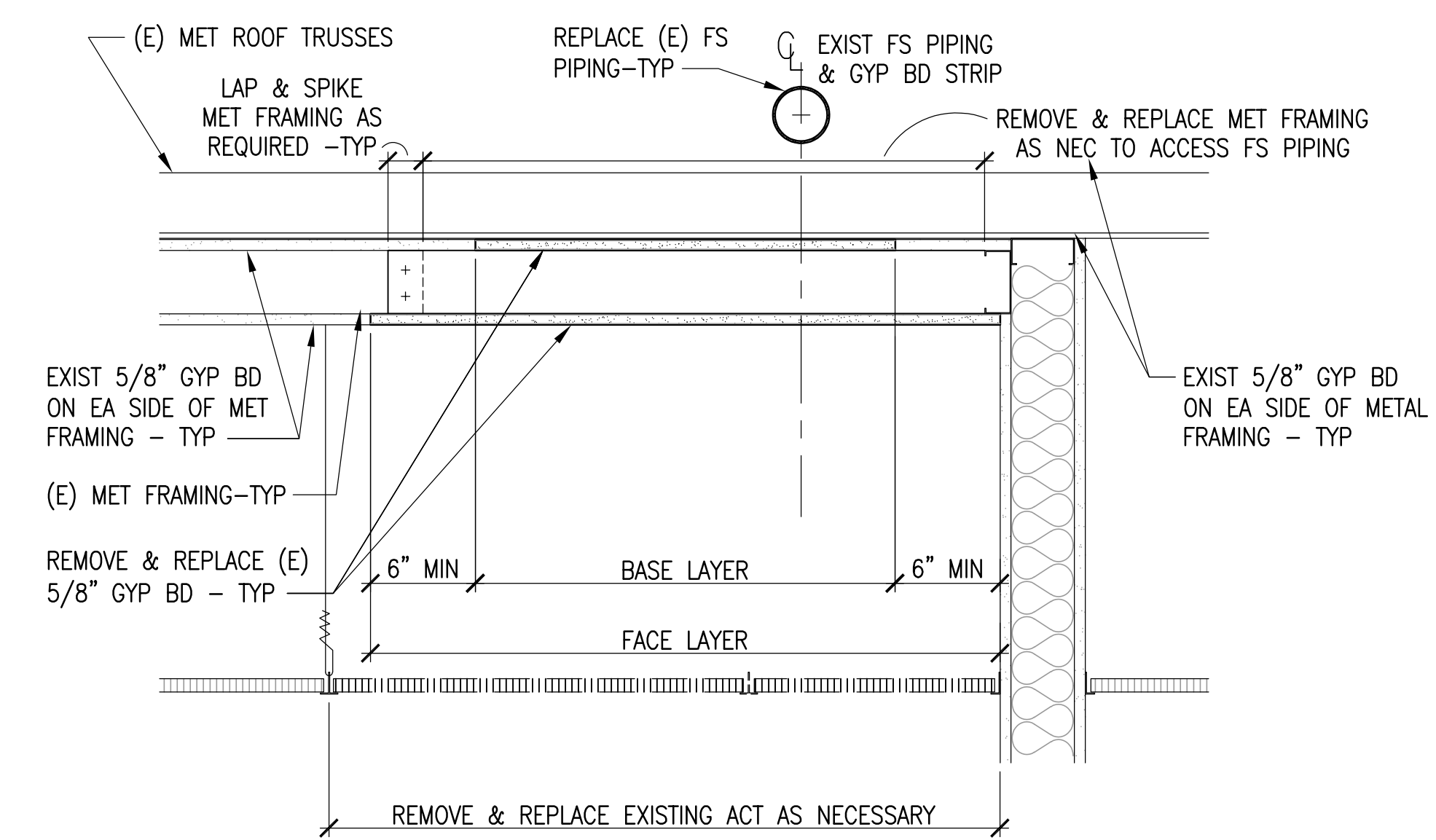
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 A802 SCALE: 1 1/2" = 1'-0"



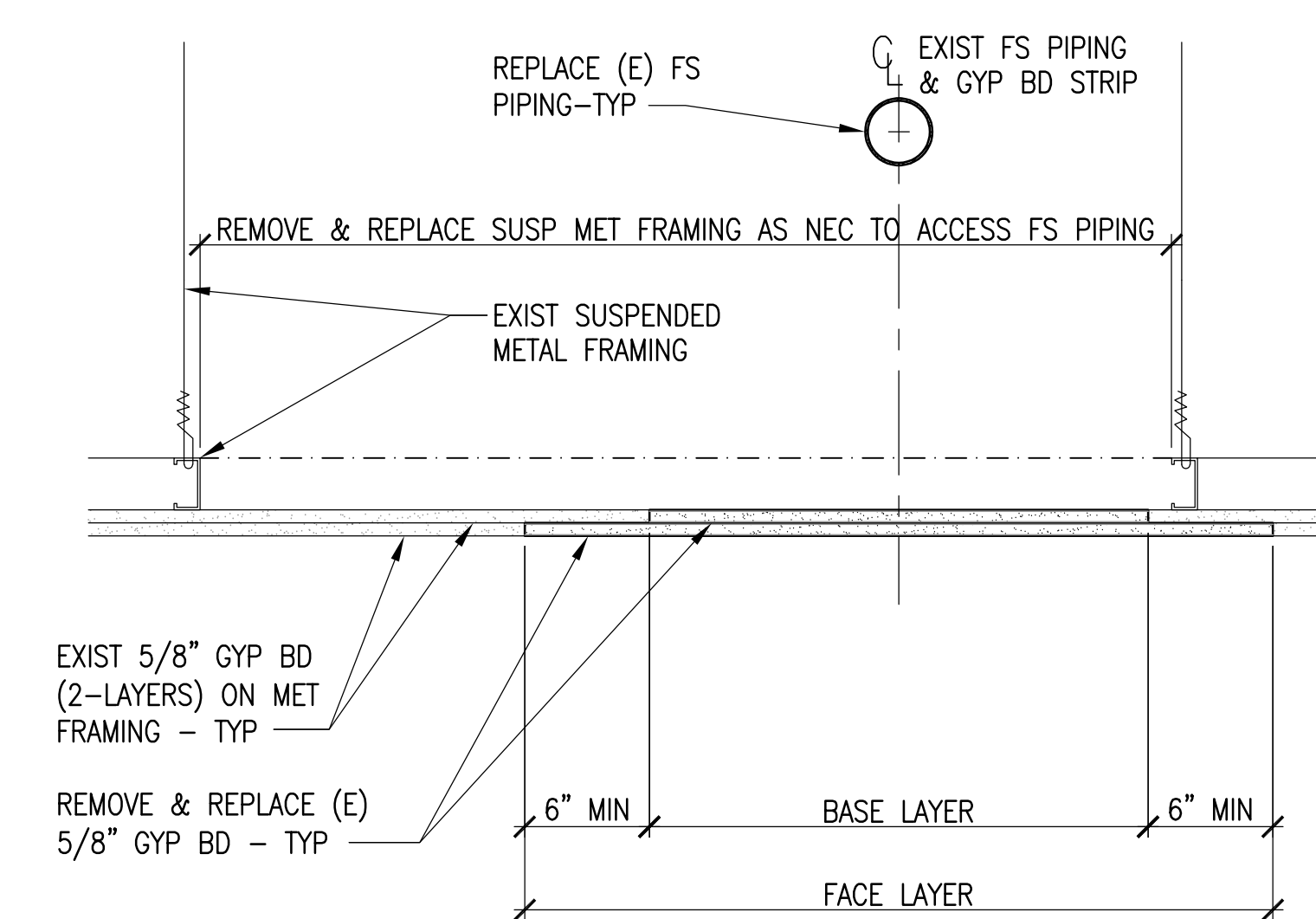
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 A802 SCALE: 1 1/2" = 1'-0"



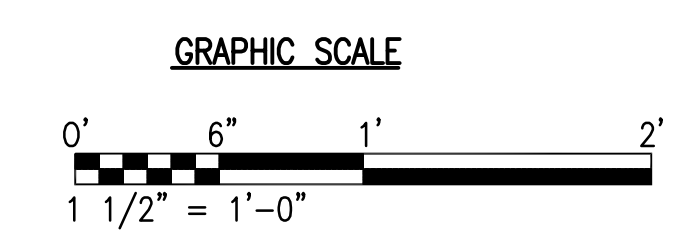
**4 ACCESS STRIP AT (E) MET FRAMED CLG**  
 A802 SCALE: 1 1/2" = 1'-0"



**2 ACCESS STRIP AT (E) MET FRAMED CLG**  
 A802 SCALE: 1 1/2" = 1'-0"



**5 ACCESS STRIP AT (E) SUSP MET FRAMED CLG**  
 A801 SCALE: 1 1/2" = 1'-0"



REV NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  FIRE SPRINKLER SYSTEM REPLACEMENT PROJECT  WAIMANALO, OAHU, HAWAII  SOFFIT DETAILS					
ARCHITECTS PACIFIC, INC. DESIGNED BY: CEI DRAWN BY: GG		CHECKED BY: DK APPROVED BY: DK		JOB NO. CA-202006-C	DRAWING NO. <b>A802</b>  SHEET <b>30</b> OF 45 SHEETS
SIGNATURE  License Exp: 04/30/2024		SCALE: AS NOTED		DATE AUG 03, 2023	FILE _____ DRAWER _____ FOLDER _____

Date Plotted: Sat, 05 Aug 2023, 2:21pm  
 File Name: \\projap\Projects\21000.0000 Projects\21000.0000 Fire Sprinkler System\4\_DRAWINGS\Arch\Combined\A802\_dwg.dwg

## GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES ON THE JOB. EACH TRADE SHALL REVIEW AND COORDINATE THE CONTRACT PLANS AND SPECIFICATIONS WITH THE OTHER TRADES TO COMPLETE THE WORK AS INTENDED BY THE FINAL CONSTRUCTION DOCUMENTS.
- SHOULD ANY DISCREPANCY IN THE PLANS OR SPECIFICATIONS BE DISCOVERED, THE GENERAL CONTRACTOR SHALL NOTIFY THE ADMINISTERING PARTY BEFORE PROCEEDING WITH ANY FURTHER WORK. OTHERWISE, THE GENERAL CONTRACTOR AND SUBCONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN CORRECTION OF WORK PLACED DUE TO SUCH DISCREPANCY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS AND DEVICE LOCATIONS PRIOR TO START OF DEMOLITION.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH REGIONAL TRAINING INSTITUTE (RTI) FACILITIES AND MAINTENANCE CONSTRUCTION WORK GUIDELINES INCLUDING HIARNG ENVIRONMENTAL CONTRACTOR REQUIREMENTS AND CONTRACT LANGUAGE FOR ACQUIRING GEOSPATIAL DATA (CADD, GIS, CAFM) SYSTEM DELIVERABLES FROM ARCHITECT-ENGINEER (A-E) CONSULTING FIRMS.
- LANDSCAPING IN IMMEDIATE AREA AROUND EACH BUILDING WET PIPE SPRINKLER RISER BEING REPLACED AS PART OF PROJECT WORK SCOPE:
  - CONTRACTOR SHALL PHOTO DOCUMENT EXISTING PLANTS, GROUND COVER AND GRAVEL BED IN THE IDENTIFIED WORK AREA PRIOR TO START OF ANY WORK.
  - CONTRACTOR SHALL RETURN THE LANDSCAPING IN THE WORK AREA TO ITS CONDITION PRIOR TO THE START OF WORK. PROVIDE PLANTS OF SIMILAR APPEARANCE AND SIZE TO THE EXTENT POSSIBLE.

## AUTOMATIC SPRINKLER SYSTEM NOTES

- PROJECT SCOPE OF WORK INVOLVES THE COMPLETE REPLACEMENT OF FIVE (5) EXISTING WET PIPE FIRE SPRINKLER SYSTEMS, AND THE INSTALLATION OF ONE (1) AUTOMATIC AIR VENT ONTO EACH NEW FIRE SPRINKLER DISTRIBUTION PIPING SYSTEM WITH A NITROGEN INERTING SYSTEM AT THE FOLLOWING BUILDINGS:
  - B711 ADMINISTRATION
  - B711 CLASSROOMS
  - B712 MESS HALL
  - B713 AUDITORIUM
  - B714 BILLETS A, INCLUDING PHYSICAL FITNESS AND LAUNDRY AREA

NEW CONCRETE PADS WILL BE PROVIDED FOR THE NEW, EXTERIOR FIRE SPRINKLER RISERS FOR EACH BUILDING.
- AUTOMATIC WET PIPE SPRINKLER PROTECTION SHALL BE PROVIDED THROUGHOUT THE BUILDINGS LISTED IN NOTE 1.
 

WATER SUPPLY INFORMATION: LOCATION - CONNECTIONS TO EXISTING MAIN

STATIC PRESSURE	95 PSI
RESIDUAL PRESSURE	74 PSI
FLOW AT RESIDUAL PRESSURE	1,999 PSI
PROJECTED FLOW AT 20 PSI	3,975 PSI
- FIRE PROTECTION CONTRACTOR SHALL SUBMIT FIRE SPRINKLER SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. TWO (2) SETS OF COMPLETED WORKING PLANS STAMPED AND SIGNED BY A HAWAII LICENSED MECHANICAL ENGINEER SHALL BE SUBMITTED, AS APPLICABLE.
- THE SPRINKLER SYSTEM SHALL COMPLY WITH SPECIFICATION 21 13 13. PIPING AND SPRINKLER LOCATIONS SHOWN ARE CONCEPTUAL. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SPRINKLER SYSTEM COMPONENTS AND COORDINATE WITH THE VARIOUS TRADES.
- ALL DEVICES AND EQUIPMENT SHALL BE UL LISTED OR FM APPROVED.
- SPRINKLER PIPING SHALL COMPLY WITH NFPA 13. EXISTING FIRE SPRINKLERS CANNOT BE REUSED OR REINSTALLED.
- SPRINKLER PIPING 2" OR SMALLER SHALL BE SCHEDULE 40. SPRINKLER PIPING LARGER THAN 2" SHALL BE MINIMUM SCHEDULE 10. EXISTING SPRINKLER PIPING IS BLACK STEEL. CONTRACTOR SHALL FIELD CONFIRM PRIOR TO START OF CONSTRUCTION AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES.
- AUTOMATIC AIR VENT LOCATIONS ARE BASED ON LIMITED FIELD INVESTIGATION AND EXISTING AVAILABLE REFERENCE DRAWINGS. HARD CEILING AREAS IN THE WORK SCOPE AREAS WERE NOT ACCESSIBLE AT TIME OF FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS ABOVE EXISTING HARD CEILING AREAS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL EXERCISE CARE WHEN INSTALLING AUTOMATIC AIR VENTS FOR THE EXISTING FIRE SPRINKLER SYSTEM. EXISTING SPRINKLER SYSTEMS ARE APPROXIMATELY 20 YEARS OLD.
- EXISTING SPRINKLER HEADS IN MECHANICAL, JANITOR, AND STORAGE ROOMS SHALL BE REPLACED WITH K-8.0 SPRINKLER HEADS AND AS INDICATED ON THE DRAWINGS.
- FIRE SAFETY:
 

NFPA 1, 16.1.1: STRUCTURES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION OPERATIONS, INCLUDING THOSE IN UNDERGROUND LOCATIONS, SHALL COMPLY WITH NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, AND THIS CHAPTER.

## AUTOMATIC SPRINKLER SYSTEM NOTES (CONTINUATION)

- ACCEPTANCE TESTING:
  - CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS FOR ALL WET PIPE FIRE SPRINKLER SYSTEMS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION, REHABILITATION, OR MODIFICATION. FURTHER, PRELIMINARY INSPECTION AND TESTING, AND ACCEPTANCE TESTS OF THE SYSTEMS SHALL BE PERFORMED IN THE FIRE PROTECTION ENGINEER'S PRESENCE PRIOR TO FINAL SYSTEM CERTIFICATION.
  - HIARNG CONSTRUCTION OFFICER OR ITS AUTHORIZED REPRESENTATIVE SHALL WITNESS AND APPROVE INSTALLATION WORK PRIOR TO FINAL SYSTEM CERTIFICATION.

## NITROGEN FILLING PROCEDURE NOTES

- GO TO THE FIRE SPRINKLER RISER WHERE THE NITROGEN INJECTION MANIFOLD (NIM) IS LOCATED.
  - ATTACH THE NITROGEN CYLINDER PRESSURE REGULATOR TO THE NITROGEN CYLINDER.
  - OPEN NITROGEN CYLINDER FULLY.
  - ADJUST THE NITROGEN CYLINDER PRESSURE REGULATOR TO 40 PSI.
  - CONNECT THE NITROGEN CYLINDER TO THE NIM USING A HOSE CONNECTION.
  - OPEN BALL VALVE ON THE NIM. NOW, NITROGEN SHOULD BE ENTERING THE FIRE SPRINKLER SYSTEM.
  - AFTER NITROGEN HAS FULLY ENTERED THE SYSTEM, GO TO THE EXHAUST MANIFOLD THAT IS INSTALLED AT A REMOTE PART OF THE SYSTEM.
  - CHECK PRESSURE GAUGE ON THE EXHAUST MANIFOLD. THE PRESSURE IN THE SYSTEM SHOULD BE RISING. IT MAY TAKE A FEW MINUTES TO SEE ANY CHANGE IN THE SYSTEM PRESSURE.
  - ONCE PRESSURE GAUGE HAS REACHED 40 PSI, OPEN BALL VALVE ON THE EXHAUST MANIFOLD. NITROGEN GAS WILL BE ESCAPING THROUGH THE MUFFLER ON THE EXHAUST MANIFOLD. FOR LARGE MULTIPLE THOUSAND GALLON SYSTEMS, IT CAN TAKE UP TO SEVERAL HOURS FOR THE SYSTEM TO REACH 40 PSI.
  - WHEN THE PRESSURE GAUGE DROPS BELOW 5 PSI, CLOSE BALL VALVE ON THE EXHAUST MANIFOLD.
  - ALLOW PRESSURE TO REACH 40 PSI IN THE FIRE SPRINKLER SYSTEM AGAIN.
  - ONCE PRESSURE REACHES 40 PSI, OPEN THE EXHAUST MANIFOLD.
  - ONCE THE PRESSURE GAUGE DROPS BELOW 5 PSI, CLOSE THE BALL VALVE ON THE EXHAUST MANIFOLD.
  - RETURN TO THE FIRE SPRINKLER RISER AND CLOSE THE NIM BALL VALVE.
  - FULLY CLOSE AND DISCONNECT THE NITROGEN CYLINDER.
  - THE SYSTEM IS NOW FULL OF NITROGEN.
  - RETURN THE SYSTEM TO OPERATION BY FILLING THE SYSTEM WITH WATER.
  - THE AUTOMATIC AIR VENT WILL AUTOMATICALLY EXHAUST THE MAJORITY OF GAS IN THE SYSTEM TO MINIMIZE TRAPPED GAS. ANY RESIDUAL TRAPPED GAS POCKETS ARE NOW NITROGEN.
- NOTE: IN SYSTEMS THAT ARE LARGER THAN 250 GALLONS THE NITROGEN CYLINDER CAN BECOME DEPLETED OF NITROGEN GAS. IT MAY BE NECESSARY TO CHANGE THE NITROGEN CYLINDER.

## DRAINING AND TESTING OF A WET PIPE NITROGEN INERTED SYSTEM

- TO DRAIN THE FIRE SPRINKLER SYSTEM, ATTACH A NITROGEN CYLINDER TO THE NIM.
- FULLY OPEN THE NITROGEN CYLINDER.
- ADJUST THE PRESSURE TO 40 PSI ON THE NITROGEN CYLINDER PRESSURE REGULATOR.
- OPEN THE BALL VALVE ON THE NIM.
- DRAIN THE SYSTEM OF WATER THROUGH THE MAIN DRAIN AT THE FIRE SPRINKLER RISER.
- ONCE ALL THE WATER HAS BEEN DRAINED, CLOSE THE NIM AND NITROGEN CYLINDER AND DISCONNECT THE NITROGEN CYLINDER.
- THE SYSTEM RETAINS APPROXIMATELY 98% NITROGEN. WHEN PUTTING THE SYSTEM BACK INTO OPERATION, PERFORM THE NORMAL WATER FILLING PROCEDURE.

NOTE: WHEN PIPING IS REPLACED OR SPRINKLER HEADS ARE MOVED IT IS RECOMMENDED TO REFILL THE SYSTEM WITH NITROGEN.

## EXISTING UNDERGROUND FIRE WATER SUPPLY SYSTEM AND RELATED NEW WORK

- EXISTING UNDERGROUND FIRE WATER SUPPLY PIPING SIZE, ALIGNMENT AND BOTTOM OF PIPE DEPTH TAKEN FROM BEST AVAILABLE REFERENCE DRAWINGS PROVIDED BY HAWAII ARMY NATIONAL GUARD, FY00 298TH REGIONAL TRAINING INSTITUTE PHASE I 150036 PROJECT DRAWINGS, DATED 3-28-2000.
- NO AS-BUILT REFERENCE DRAWINGS WERE AVAILABLE DURING CURRENT PROJECT DESIGN DEVELOPMENT.
- ALL EXISTING UNDERGROUND FIRE WATER SUPPLY AND DISTRIBUTION SYSTEM ARE ASSUMED TO BE IN COMPLIANCE WITH THE FOLLOWING STANDARDS IN FORCE AT TIME OF PROJECT DESIGN DEVELOPMENT NAMED IN NOTE 1, ABOVE.
  - NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
  - NFPA 24 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
- CONTRACTOR MUST TAKE NECESSARY PRECAUTIONS DURING CONSTRUCTION, DEWATERING AND EXCAVATION TO PREVENT DAMAGE TO EXISTING UTILITIES AND WILL BE RESPONSIBLE IN THE EVENT OF ANY DAMAGE AND HELD RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS AND/OR MADE KNOWN PRIOR TO START AND DURING CONSTRUCTION.
- THE CONTRACTOR MUST REPAIR DAMAGE TO UTILITIES OR STRUCTURES WITH THE CONCURRENCE OF THE CONTRACTING OFFICER OR STATE'S REPRESENTATIVE.

## FIRE WATCH AND HONOLULU FIRE DEPARTMENT NOTES

JOB SITE PLANS  
ONE SET OF APPROVED PLANS AND SPECIFICATIONS SHALL BE KEPT ON THE SITE OF THE BUILDING OR WORK AT ALL TIMES DURING THE WORK AUTHORIZED THEREBY IS IN PROGRESS.

THE FACILITY FIRE ALARM SYSTEM IS MONITORED BY ALERT ALARM HAWAII, (808) 521-5000. CONTRACTOR MUST PROVIDE 48-HOUR ADVANCE NOTICE TO ALERT ALARM HAWAII BEFORE THE FIRE SPRINKLER SYSTEM IS TAKEN OUT OF SERVICE.

- 13.4.1.6.4.1 SERVICE PERSONNEL  
SERVICE PERSONNEL SHALL BE QUALIFIED IN THE MAINTENANCE AND SERVICING OF SYSTEMS ADDRESSED WITHIN THE SCOPE OF THE CODE. QUALIFIED PERSONNEL SHALL INCLUDE, BUT NOT BE LIMITED TO, ONE OR MORE OF THE FOLLOWING:
- PERSONNEL WHO ARE FACTORY TRAINED AND CERTIFIED FOR THE SPECIFIC TYPE AND BRAND OF SYSTEM BEING SERVICED
  - PERSONNEL WHO ARE CERTIFIED BY A NATIONALLY RECOGNIZED CERTIFIED BY A NATIONALLY RECOGNIZED CERTIFICATION ORGANIZATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION
  - PERSONNEL, EITHER INDIVIDUALLY OR THROUGH THEIR AFFILIATION WITH AN ORGANIZATION THAT IS REGISTERED, LICENSED, OR CERTIFIED BY A STATE OR LOCAL AUTHORITY TO PERFORM SERVICE ON SYSTEMS ADDRESSED WITHIN THE SCOPE OF THIS CODE.
  - PERSONNEL WHO ARE EMPLOYED AND QUALIFIED BY AN ORGANIZATION LISTED BY NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE SERVICING OF SYSTEMS WITHIN THE SCOPE OF THIS CODE.

ALTERATION OF BUILDINGS  
16.4.4.1 WHERE THE BUILDING IS PROTECTED BY FIRE PROTECTION SYSTEMS, SUCH SYSTEMS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING ALTERATION.

16.4.4.2 WHERE ALTERATION REQUIRES MODIFICATION OF A PORTION OF THE FIRE PROTECTION SYSTEM, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE AND THE FIRE DEPARTMENT SHALL BE NOTIFIED.

16.4.4.3 WHEN IT IS NECESSARY TO SHUT DOWN THE SYSTEM, THE HIARNG'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REQUIRE ALTERNATE MEASURES OF PROTECTION UNTIL THE SYSTEM IS RETURNED TO SERVICE.

16.4.4.4 THE FIRE DEPARTMENT SHALL BE NOTIFIED WHEN THE SYSTEM IS SHUT DOWN AND WHEN THE SYSTEM IS RETURNED TO SERVICE.

10.8.1.1 AS NECESSARY DURING EMERGENCIES, MAINTENANCE, DRILLS, PRESCRIBED TESTING, ALTERATIONS, OR RENOVATIONS, PORTABLE OR FIXED FIRE-EXTINGUISHING SYSTEMS OR DEVICES OR ANY FIRE-WARNING SYSTEM SHALL BE PERMITTED TO BE MADE INOPERATIVE OR INACCESSIBLE.


13.1.9 WHEN A FIRE PROTECTION SYSTEM IS OUT OF SERVICE FOR MORE THAN 4 HOURS IN A 24-HOUR PERIOD, THE HIARNG FMO-PROJECT MANAGER WILL REQUIRE AN APPROVED, CONTINUOUS FIRE WATCH TO BE PROVIDED FOR ALL PORTIONS LEFT UNPROTECTED BY THE FIRE PROTECTION SYSTEM SHUTDOWN UNTIL THE FIRE PROTECTION SYSTEM HAS BEEN RETURNED TO SERVICE.

HIARNG'S REPRESENTATIVE APPROVAL:

- THE HIARNG'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REQUIRE THAT CONSTRUCTION DOCUMENTS FOR ALL FIRE PROTECTION SYSTEMS BE SUBMITTED FOR REVIEW AND APPROVAL. FURTHER, THE HIARNG'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REQUIRE THAT FULL ACCEPTANCE TESTS OF THE SYSTEMS BE PERFORMED IN THE HIARNG'S REPRESENTATIVE'S PRESENCE PRIOR TO FINAL SYSTEM CERTIFICATION.
- FIRE ALARM SYSTEMS; FIRE HYDRANT SYSTEMS; FIRE-EXTINGUISHING SYSTEMS; STANDPIPES; AND OTHER FIRE-PROTECTION SYSTEMS AND APPURTENANCES REQUIRED BY THIS CODE SHALL BE APPROVED BY THE HIARNG'S REPRESENTATIVE AS TO INSTALLATION AND LOCATION AND SHALL BE SUBJECT TO ACCEPTANCE TESTS REQUIRED BY THE APPROPRIATE COUNTY AGENCY.
- A COPY OF A SYSTEM'S UNSATISFACTORY INSPECTION AND MAINTENANCE TEST REPORT SHALL BE SUBMITTED TO THE HIARNG'S REPRESENTATIVE BY THE TESTING COMPANY WITHIN FIVE (5) WORKING DAYS AFTER THE COMPLETION OF THE TEST. 2018 NFPA 1, CHAPTER 13 AS AMENDED.

## LIST OF SYMBOLS AND ABBREVIATIONS

NEW	DESCRIPTION
●	PENDENT SPRINKLER
▽	SIWELL SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
┌	PIPE CAP
○—	PIPE ELBOW UP, AS NOTED
└	PIPE ELBOW DOWN, AS NOTED
┌└	PIPE TEE DOWN, AS NOTED
┌└	PIPE TEE UP, AS NOTED
⊕	FIRE DEPARTMENT CONNECTION
WF	WATER FLOW SWITCH
VS	TAMPER SWITCH
AV	AUTOMATIC AIR VENT
AFF	ABOVE FINISHED FLOOR
DEFS	DIRECT-APPLIED EXTERIOR FINISH SYSTEM
DI	DUCTILE IRON
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
TYP	TYPICAL
POC	POINT OF CONNECTION
EXST	EXISTING
CTR	CONTRACTOR
HIARNG	HAWAII ARMY NATIONAL GUARD
FMO	FACILITIES MAINTENANCE OFFICER
FPE	FIRE PROTECTION ENGINEER
QCFPE	QUALITY CONTROL FIRE PROTECTION ENGINEER
NIM	NITROGEN INJECTION MANIFOLD

REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
					
DEPARTMENT OF DEFENSE STATE OF HAWAII  FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT  WAIMANALO, OAHU, HAWAII  FIRE ALARM NOTES, SYMBOLS, AND ABBREVIATIONS					
DESIGNED BY: TW		CHECKED BY: RTB		JOB NO. CA-202006-C	DRAWING NO. F001
DRAWN BY: TW		APPROVED BY: JTH		DATE	SHEET 31
SCALE: AS NOTED				AUG 03, 2023	OF 45 SHEETS

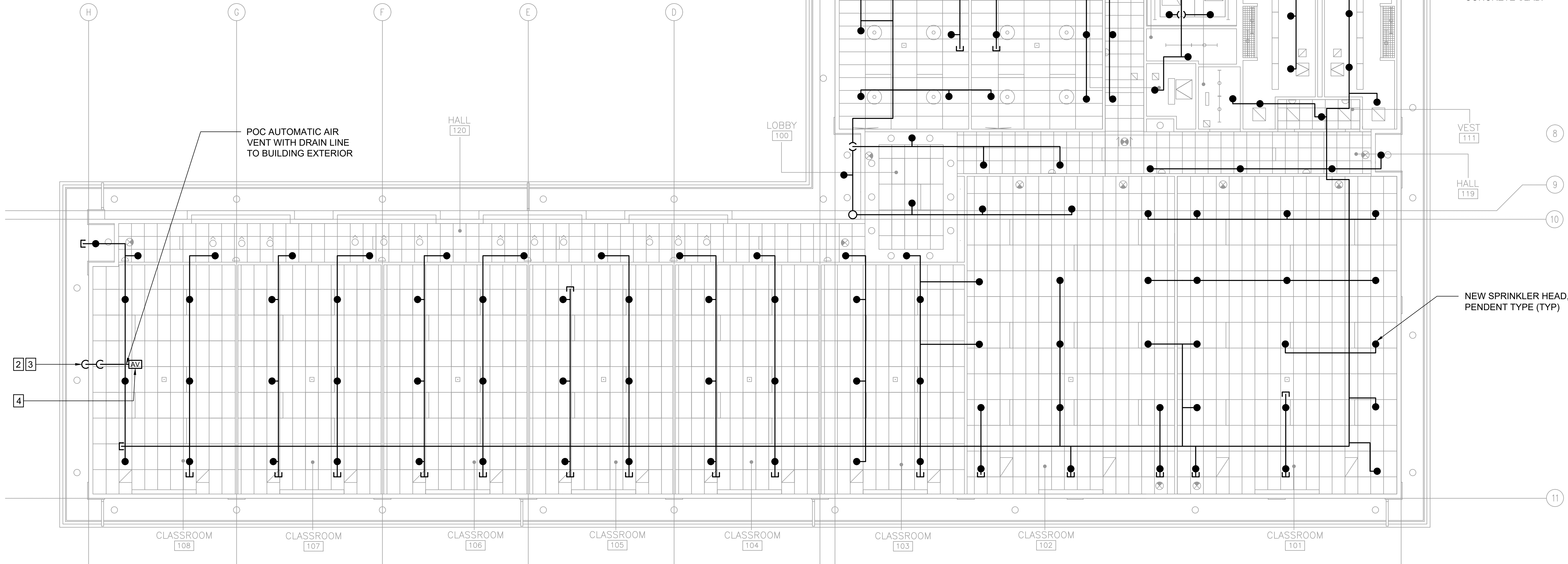
This work was prepared by me or under my supervision, and construction of this project will be under my observation.

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FILE \_\_\_\_\_ DRAWER \_\_\_\_\_ FOLDER \_\_\_\_\_

NOTE:  
 REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM  
 PIPING, SPRINKLER HEADS, HANGERS, BRACING,  
 FITTINGS, RESTRAINTS WITHIN THE CLASSROOM  
 BUILDING WITH NEW

MATCHLINE  
 SHEET FX102



**1 CLASSROOM - FIRE SPRINKLER FLOOR PLAN**  
 SCALE: 1/8" = 1'-0" (FLOOR PLAN SHOWN IS ROTATED 90 DEGREES CLOCKWISE)

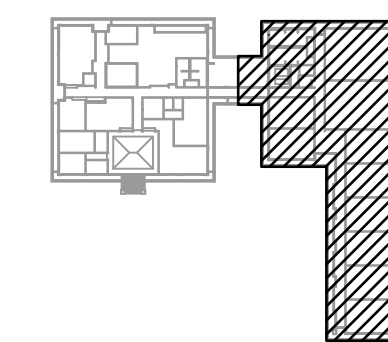


0 2' 4' 8' 16'  
 SCALE: 1/8" = 1'-0"

**NEW WORK NOTES**

- 1 FIRE RISER: NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.
- 2 DRAIN PENETRATION: PENETRATE EXISTING EXTERIOR DEFS CMU WALL. PROVIDE ESCUTCHEON AT PENETRATION WITH WATERPROOF CAULKING ALL AROUND AND ELASTOMERIC SEAL AROUND DRAIN PIPE. DO NOT PENETRATE EXISTING EIFS BAND AND FALSE COLUMNS. ROUTE DRAIN LINE TO CLEAR EXISTING OUTDOOR TRANSFORMER AND ABOVE GROUND ELECTRICAL BOX.
- 3 AUTOMATIC AIR VENT DRAIN: ROUTE DRAIN LINE TO CLEAR MINIMUM 2" FROM FACE OF EIFS BAND. TERMINATE DRAIN LINE 12" ABOVE FINISH GRADE.
- 4 AUTOMATIC AIR VENT: LOCATE AND CONNECT AUTOMATIC AIR VENT VALVE ASSEMBLY NEAR HIGH POINT IN THE EXISTING FIRE SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, 16.7. CONTRACTOR SHALL FIELD VERIFY PROPOSED LOCATION OF AIR VENT VALVE ASSEMBLY AND ASSOCIATED DRAIN PIPING TO CLEAR ALL OBSTRUCTIONS. PROVIDE FITTINGS AND HANGARS AS REQUIRED. SEE DETAIL 2, AUTOMATIC AIR VENT EXTERIOR DRAIN LINE, SHEET FX501.

FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
▽	SIDEWALL SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER, EXISTING TO REMAIN
□	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⊖	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
DEFS	DIRECT-APPLIED EXTERIOR FINISH SYSTEM
AV	AUTOMATIC HIGH POINT AIR VENT



**KEY PLAN - CLASSROOM**

REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR

ROBERT T. HIGGINS  
 LICENSE NO. FP1427  
 STATE OF CALIFORNIA

DEPARTMENT OF DEFENSE  
 STATE OF HAWAII

FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT

WAIMANALO, OAHU, HAWAII

CLASSROOM - FIRE SPRINKLER FLOOR PLAN

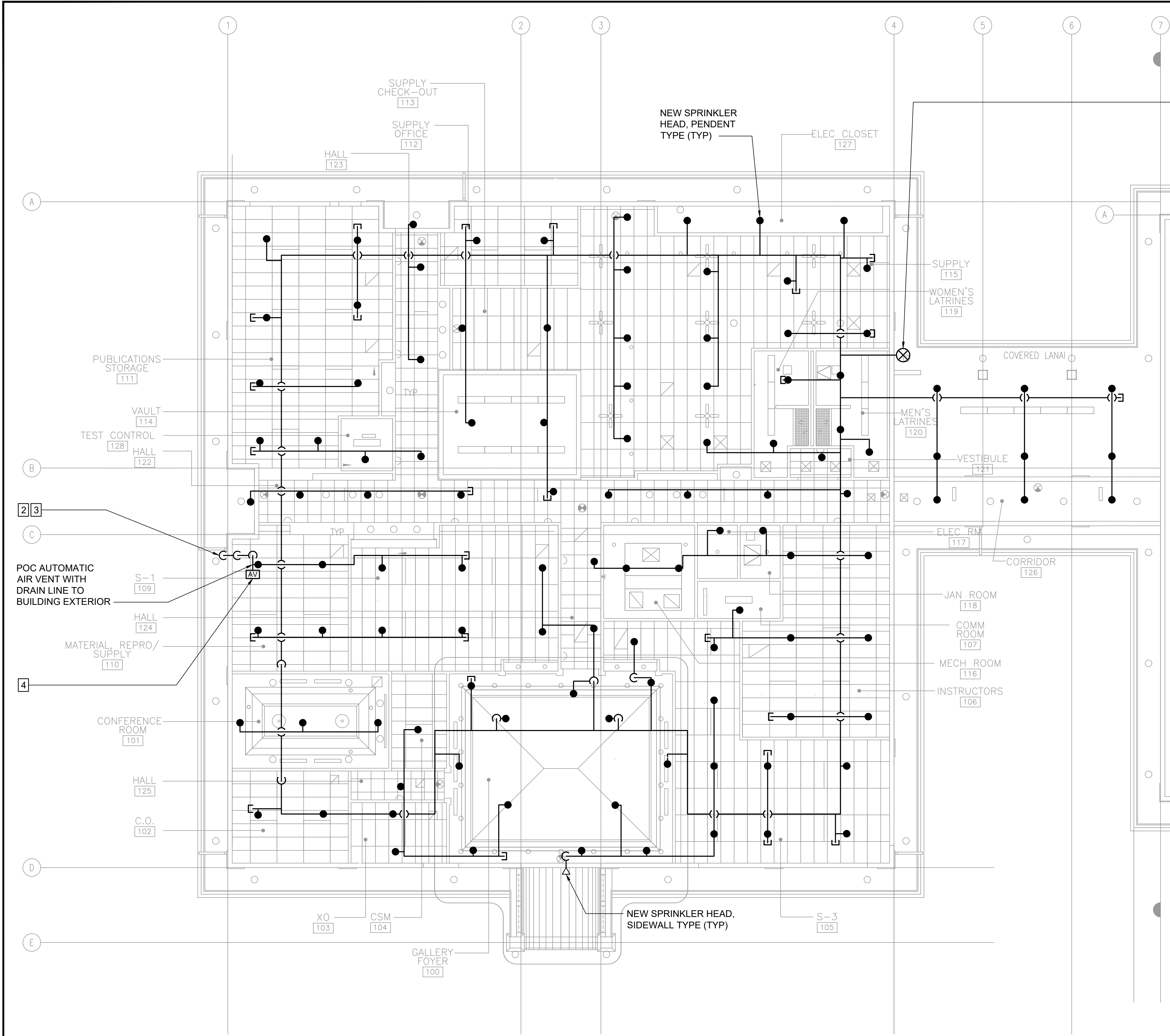
JOB NO. CA-202006-C  
 DRAWING NO. **FX101**

DESIGNED BY: TW  
 CHECKED BY: RTB  
 DRAWN BY: TW  
 APPROVED BY: JTH

DATE: AUG 03, 2023  
 SHEET: 32  
 OF 45 SHEETS

SCALE: AS NOTED

License Exp: 04/30/2024



1 NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.

NOTE:  
REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING, SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS WITHIN THE ADMINISTRATION BUILDING WITH NEW

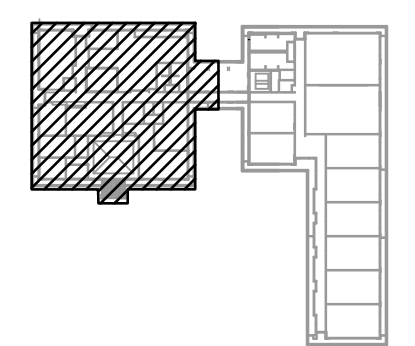
FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
△	SIDEWALL SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
□	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⊖	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
⊠	AUTOMATIC HIGH POINT AIR VENT

- NEW WORK NOTES**  
GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES
- 1 FIRE RISER: NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.
  - 2 DRAIN PENETRATION: PENETRATE EXISTING EXTERIOR DEFS CMU WALL. PROVIDE ESCUTCHEON AT PENETRATION WITH WATERPROOF CAULKING ALL AROUND AND ELASTOMERIC SEAL AROUND DRAIN PIPE. DO NOT PENETRATE EXISTING EIFS BAND AND FALSE COLUMNS. ROUTE DRAIN TO CLEAR EXISTING METAL DOWNSPOUT, WINDOW, AND OBSTRUCTIONS.
  - 3 AUTOMATIC AIR VENT DRAIN: ROUTE DRAIN LINE TO CLEAR MINIMUM 2" FROM FACE OF EIFS BAND. TERMINATE DRAIN LINE 12" ABOVE FINISH GRADE.
  - 4 AUTOMATIC AIR VENT: LOCATE AND CONNECT AUTOMATIC AIR VENT VALVE ASSEMBLY NEAR HIGH POINT IN THE EXISTING FIRE SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, 16.7. CONTRACTOR SHALL FIELD VERIFY PROPOSED LOCATION OF AIR VENT VALVE ASSEMBLY AND ASSOCIATED DRAIN PIPING TO CLEAR ALL OBSTRUCTIONS. PROVIDE FITTINGS AND HANGARS AS REQUIRED. SEE DETAIL 2, AUTOMATIC AIR VENT EXTERIOR DRAIN LINE, SHEET FX501.

1 ADMINISTRATION - FIRE SPRINKLER FLOOR PLAN  
SCALE: 1/8" = 1'-0"



KEY PLAN - ADMINISTRATION



MATCHLINE SHEET FX101

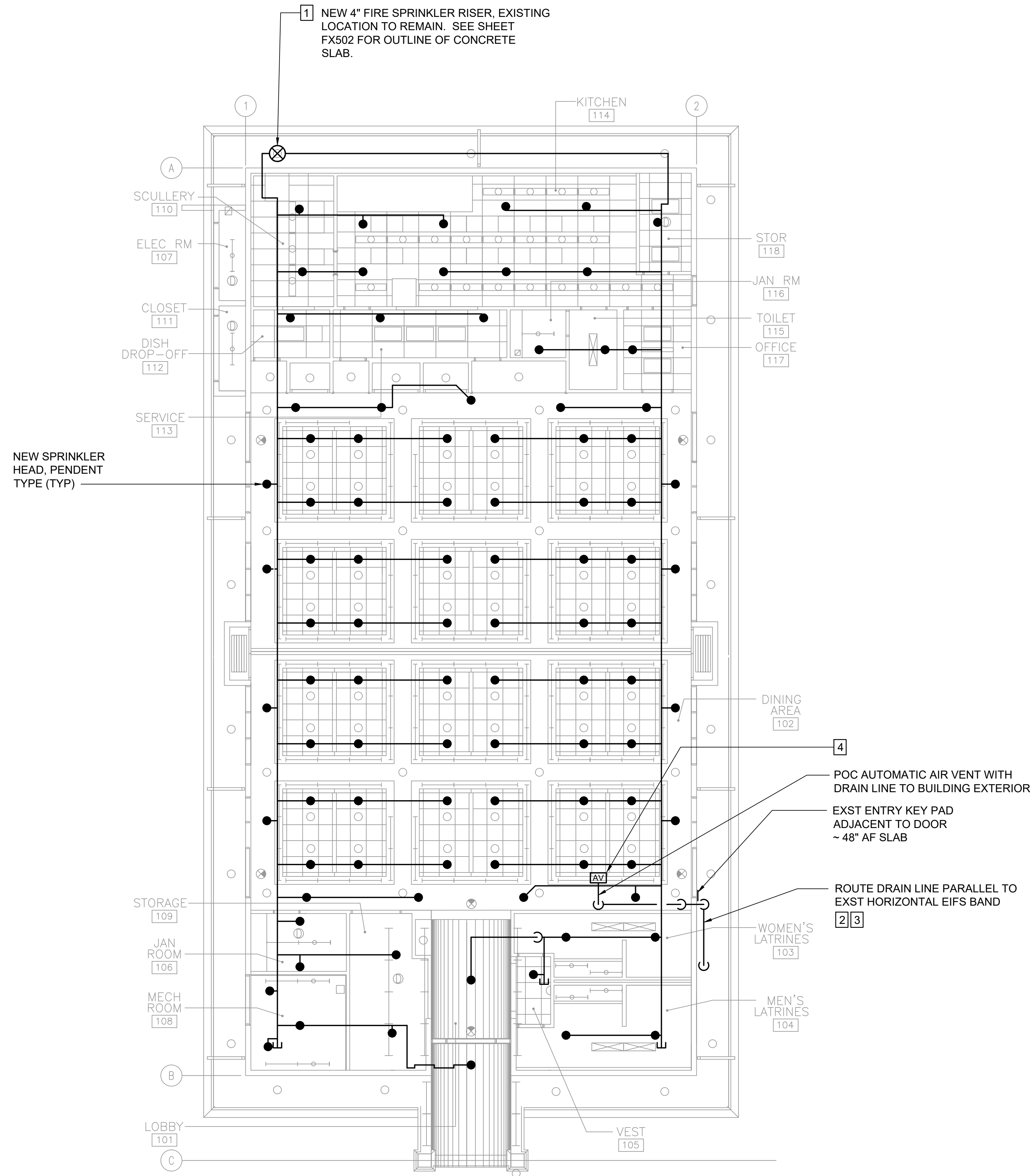
REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII ADMINISTRATION - FIRE SPRINKLER FLOOR PLAN					
DESIGNED BY: TW		CHECKED BY: RTB		JOB NO. CA-202006-C	DRAWING NO. <b>FX102</b>
DRAWN BY: TW		APPROVED BY: JTH		DATE	SHEET 33
SCALE: AS NOTED				DATE: AUG 03, 2023	OF 45 SHEETS

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FILE \_\_\_\_\_ DRAWER \_\_\_\_\_ FOLDER \_\_\_\_\_





NOTE:  
 REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING,  
 SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS  
 WITHIN THE MESSHALL BUILDING WITH NEW

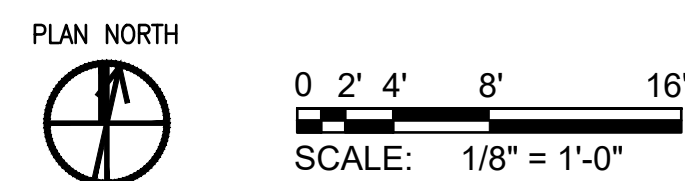
FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
□	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⊖	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
AV	AUTOMATIC HIGH POINT AIR VENT

**NEW WORK NOTES**

GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES

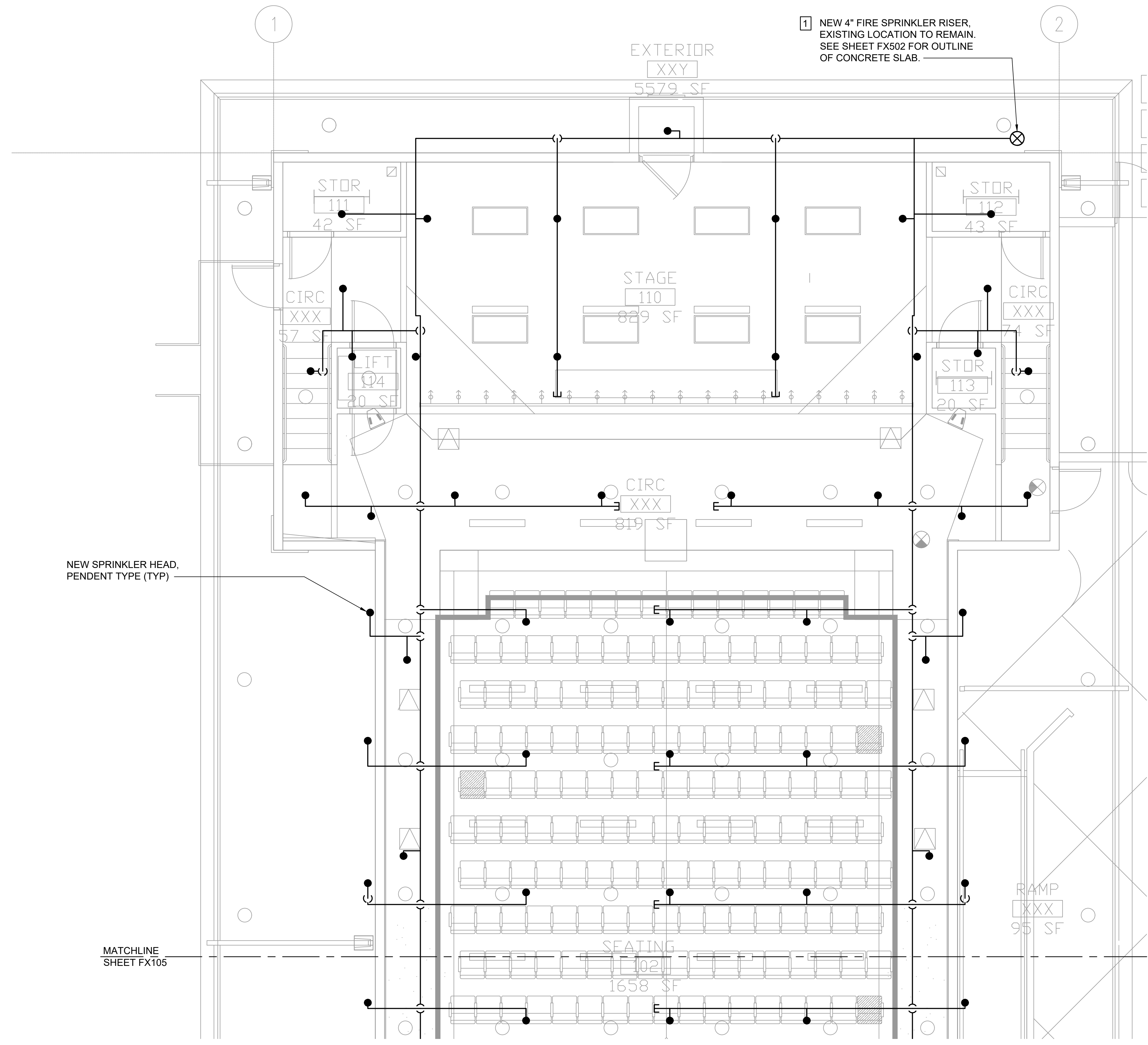
- 1 FIRE RISER: NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.
- 2 DRAIN PENETRATION: PENETRATE EXISTING EXTERIOR DEFS CMU WALL. PROVIDE ESCUTCHEON AT PENETRATION WITH WATERPROOF CAULKING ALL AROUND AND ELASTOMERIC SEAL AROUND DRAIN PIPE. DO NOT PENETRATE EXISTING EIFS BAND AND FALSE COLUMNS. ROUTE DRAIN TO CLEAR EXISTING METAL DOWNSPOUT, WINDOW, AND OBSTRUCTIONS.
- 3 AUTOMATIC AIR VENT DRAIN: ROUTE DRAIN LINE TO CLEAR MINIMUM 2" FROM FACE OF EIFS BAND. TERMINATE DRAIN LINE 12" ABOVE FINISH GRADE.
- 4 AUTOMATIC AIR VENT: LOCATE AND CONNECT AUTOMATIC AIR VENT VALVE ASSEMBLY NEAR HIGH POINT IN THE EXISTING FIRE SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, 16.7. CONTRACTOR SHALL FIELD VERIFY PROPOSED LOCATION OF AIR VENT VALVE ASSEMBLY AND ASSOCIATED DRAIN PIPING TO CLEAR ALL OBSTRUCTIONS. PROVIDE FITTINGS AND HANGARS AS REQUIRED. SEE DETAIL 2, AUTOMATIC AIR VENT EXTERIOR DRAIN LINE, SHEET FX501.

**1 MESS HALL - FIRE SPRINKLER PLAN**  
 SCALE: 1/8" = 1'-0"



REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  MESS HALL - FIRE SPRINKLER FLOOR PLAN					
		COFFMAN ENGINEERS DESIGNED BY: TW DRAWN BY: TW		CHECKED BY: RTB APPROVED BY: JTH	JOB NO. CA-202006-C DATE AUG 03, 2023
		SCALE: AS NOTED		SHEET 34 OF 45 SHEETS	

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1 NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.

NOTE:  
 REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING, SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS WITHIN THE AUDITORIUM BUILDING WITH NEW

FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
⌊	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⌋	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED

NEW WORK NOTES  
 GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES

1 FIRE RISER: NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.

NEW SPRINKLER HEAD, PENDENT TYPE (TYP)

MATCHLINE SHEET FX105

1 AUDITORIUM - FIRE SPRINKLER PLAN  
 SCALE: 1/4" = 1'-0"



REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII AUDITORIUM - FIRE SPRINKLER FLOOR PLAN					
COFFMAN ENGINEERS DESIGNED BY: TW DRAWN BY: TW			CHECKED BY: RTB APPROVED BY: JTH		JOB NO. CA-202006-C DATE AUG 03, 2023
This work was prepared by me or under my supervision, and construction of this project will be under my observation.  License Exp: 04/30/2024			DRAWING NO. <b>FX104</b> SHEET 35 OF 45 SHEETS		
SCALE: AS NOTED			FILE: DRAWER: FOLDER:		

MATCHLINE  
SHEET FX104

NEW SPRINKLER HEAD,  
PENDENT TYPE (TYP)

NEW 18" ACCESS PANEL  
TO BE INSTALLED TO  
ACCOMMODATE NEW AIR  
VENT AND DRAIN

2

1

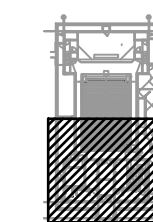
ROUTE DRAIN LINE TO  
CLEAR SLOPE OF ROOF

POC AUTOMATIC AIR  
VENT WITH DRAIN  
LINE TO BUILDING  
EXTERIOR

**1** AUDITORIUM - FIRE SPRINKLER PLAN  
SCALE: 1/4" = 1'-0"



0 2' 4' 6'  
SCALE: 1/4" = 1'-0"



KEY PLAN - AUDITORIUM

NOTE:  
REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING,  
SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS  
WITHIN THE AUDITORIUM BUILDING WITH NEW

**FIRE PROTECTION SYMBOLS & ABBREVIATIONS**

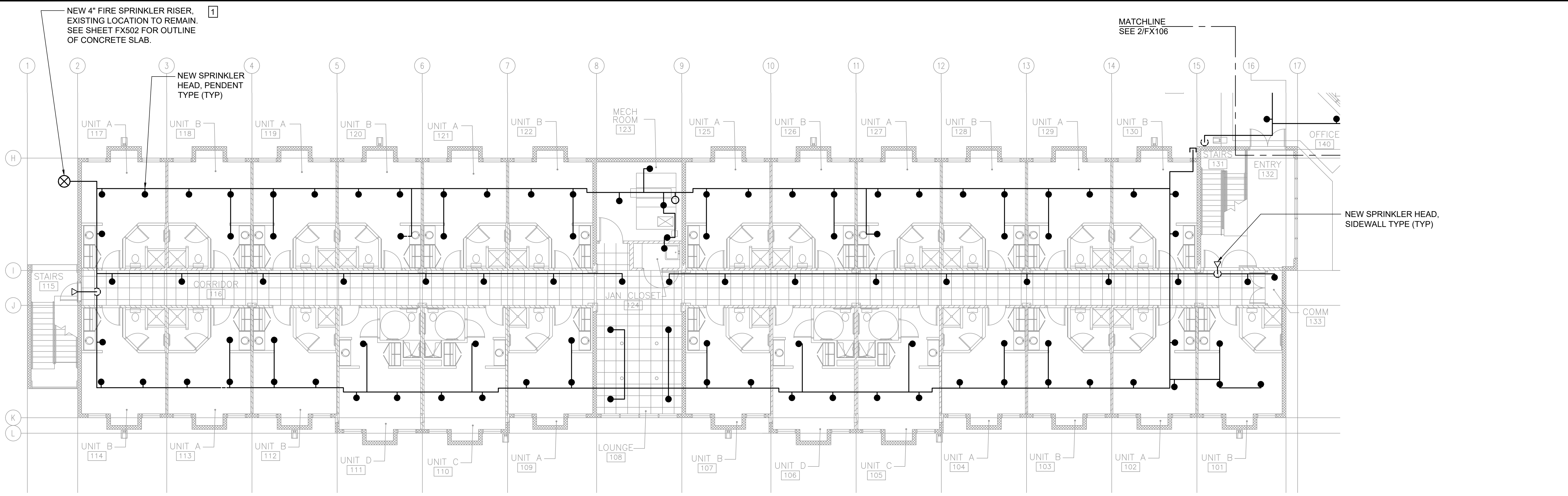
NEW	DESCRIPTION
●	PENDENT SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
□	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⊖	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
AV	AUTOMATIC HIGH POINT AIR VENT

**NEW WORK NOTES**

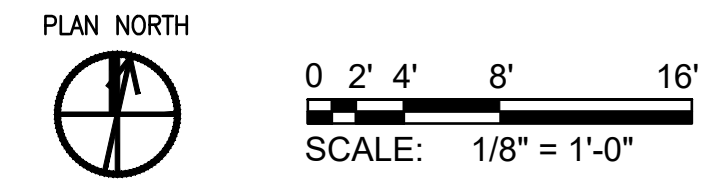
GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES

- 1 AUTOMATIC AIR VENT DRAIN: ROUTE DRAIN LINE TO CLEAR MINIMUM 2" FROM FACE OF EIFS BAND. TERMINATE DRAIN LINE 12" ABOVE FINISH GRADE.
- 2 AUTOMATIC AIR VENT: LOCATE AND CONNECT AUTOMATIC AIR VENT VALVE ASSEMBLY NEAR HIGH POINT IN THE EXISTING FIRE SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, 16.7. CONTRACTOR SHALL FIELD VERIFY PROPOSED LOCATION OF AIR VENT VALVE ASSEMBLY AND ASSOCIATED DRAIN PIPING TO CLEAR ALL OBSTRUCTIONS. PROVIDE FITTINGS AND HANGARS AS REQUIRED. SEE DETAIL 2, AUTOMATIC AIR VENT EXTERIOR DRAIN LINE, SHEET FX501.

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  AUDITORIUM - FIRE SPRINKLER FLOOR PLAN					
COFFMAN ENGINEERS DESIGNED BY: TW DRAWN BY: TW			CHECKED BY: RTB APPROVED BY: JTH		JOB NO. CA-202006-C  DATE AUG 03, 2023
SCALE: AS NOTED			SHEET 36 OF 45 SHEETS		DRAWING NO. <b>FX105</b>
License Exp: 04/30/2024					



**1** **BILLET A FIRST FLOOR - FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

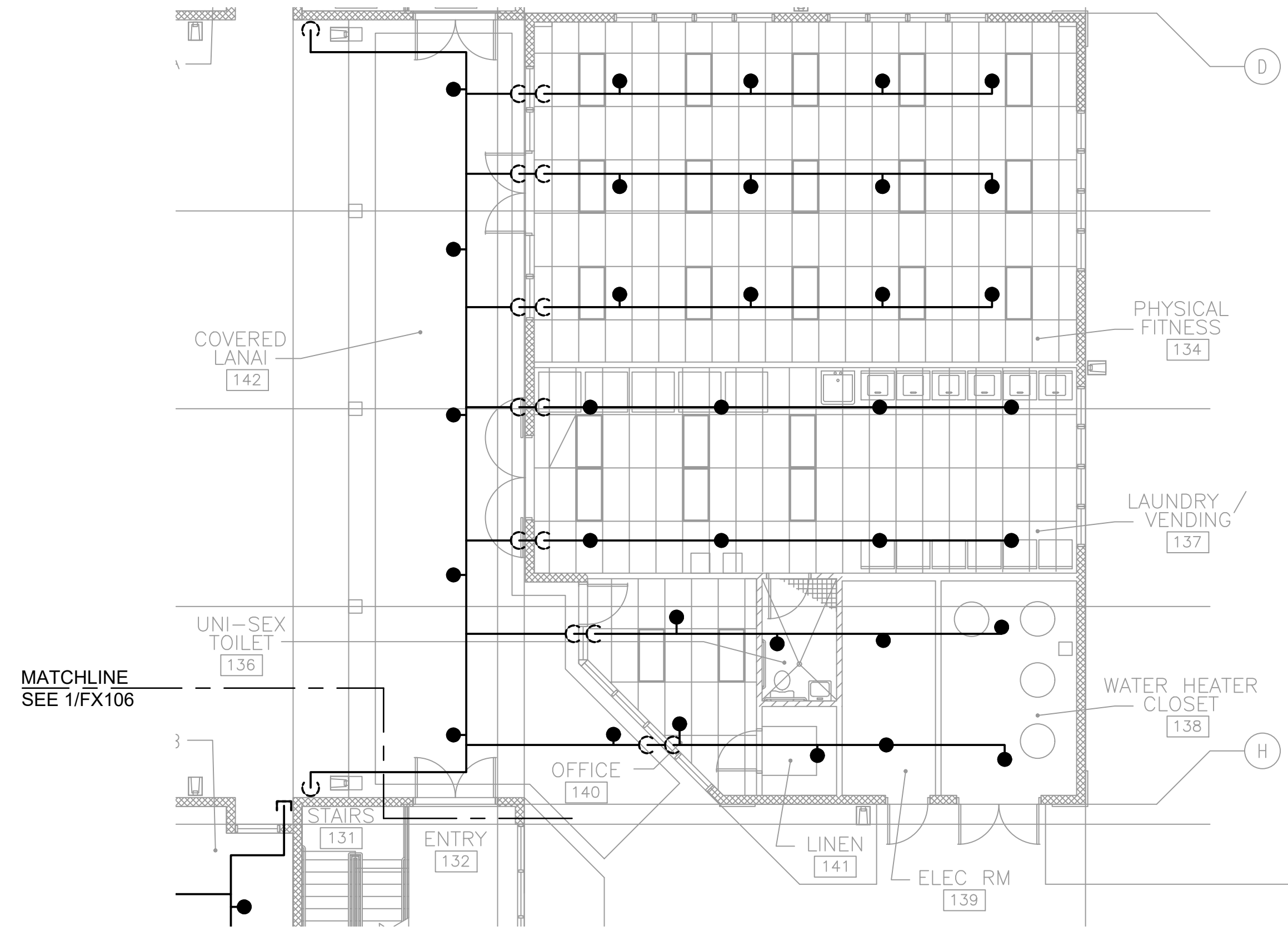


**NEW WORK NOTES**  
GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES

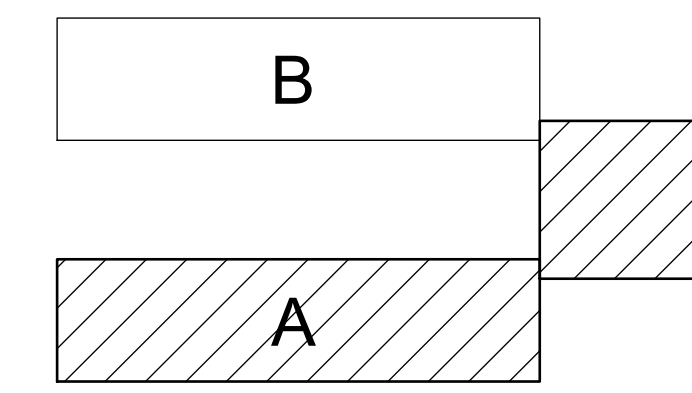
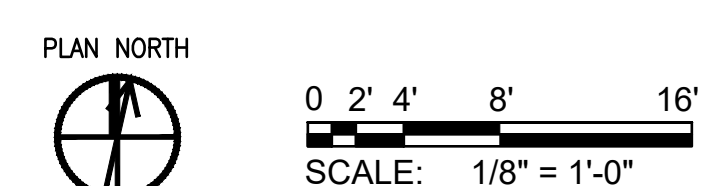
**1** FIRE RISER: NEW 4" FIRE SPRINKLER RISER, EXISTING LOCATION TO REMAIN. SEE SHEET FX502 FOR OUTLINE OF CONCRETE SLAB.

**NOTE:**  
REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING, SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS WITHIN THE BILLET A AND BILLET A&B BREEZEWAY BUILDINGS WITH NEW

FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
□	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⌒	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
⊠	AUTOMATIC HIGH POINT AIR VENT



**2** **BILLET A&B BREEZEWAY (GYM AND LAUNDRY AREA) - FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"



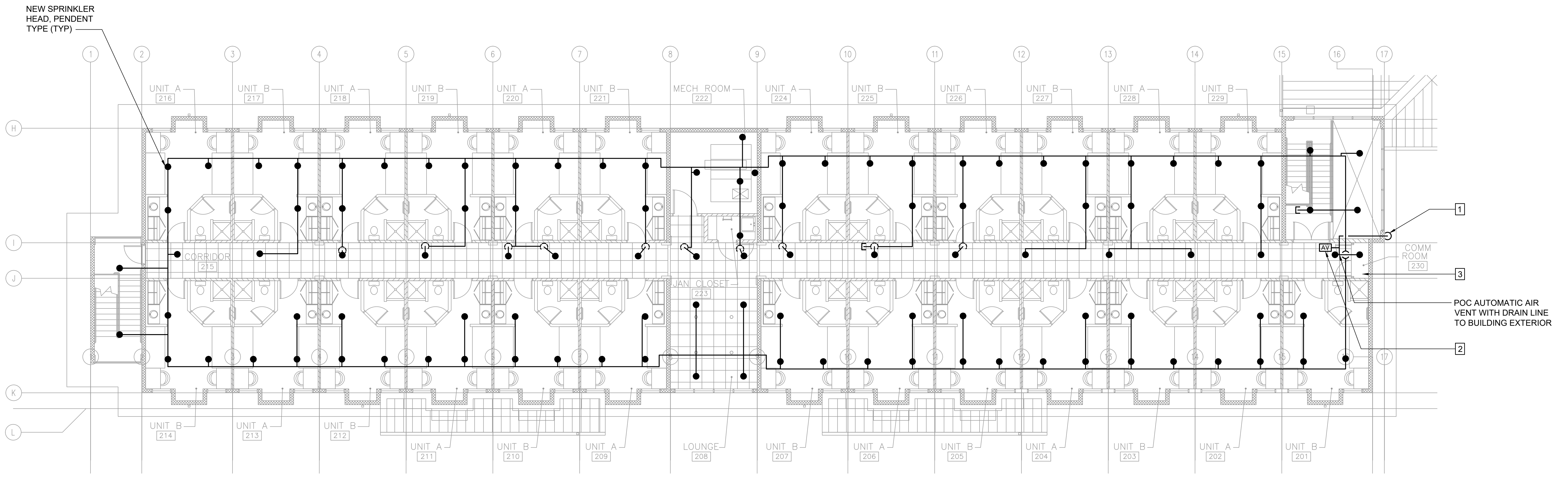
**KEY PLAN - BILLET A&B FIRST FLOOR**

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII BILLET A FIRST FLOOR - FIRE SPRINKLER FLOOR PLAN					
DESIGNED BY: TW		CHECKED BY: RTB		JOB NO. CA-202006-C	DRAWING NO. <b>FX106</b>
DRAWN BY: TW		APPROVED BY: JTH		DATE	SHEET 37
SCALE: AS NOTED				DATE: AUG 03, 2023	OF 45 SHEETS

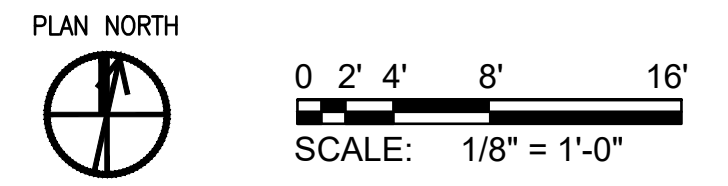
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License Exp: 04/30/2024

FILE: \_\_\_\_\_ DRAWER: \_\_\_\_\_ FOLDER: \_\_\_\_\_



**1 BILLETS A SECOND FLOOR - FIRE SPRINKLER PLAN**  
 SCALE: 1/8" = 1'-0"



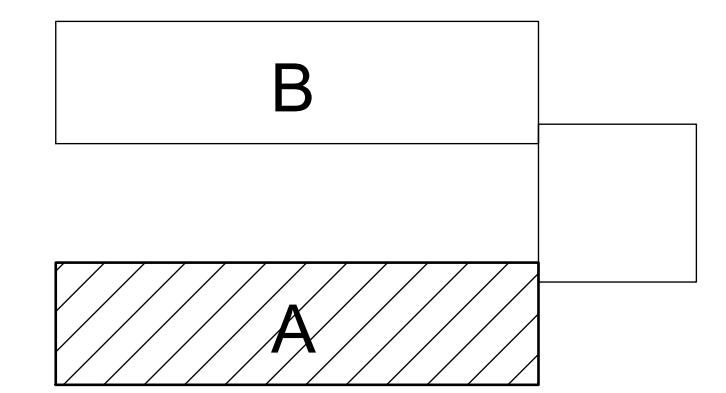
NOTE:  
 REPLACE ALL EXISTING FIRE SPRINKLER SYSTEM PIPING, SPRINKLER HEADS, HANGERS, BRACING, FITTINGS, RESTRAINTS WITHIN THE BILLETS A AND BILLET A&B BREEZEWAY BUILDINGS WITH NEW

**NEW WORK NOTES**

GENERAL NOTES: REFER TO SHEET F001 FOR GENERAL WORK NOTES

- 1** AUTOMATIC AIR VENT DRAIN: ROUTE DRAIN LINE TO CLEAR MINIMUM 2" FROM FACE OF EIFS BAND. TERMINATE DRAIN LINE 12" ABOVE FINISH GRADE.
- 2** AUTOMATIC AIR VENT: LOCATE AND CONNECT AUTOMATIC AIR VENT VALVE ASSEMBLY NEAR HIGH POINT IN THE EXISTING FIRE SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, 16.7. CONTRACTOR SHALL FIELD VERIFY PROPOSED LOCATION OF AIR VENT VALVE ASSEMBLY AND ASSOCIATED DRAIN PIPING TO CLEAR ALL OBSTRUCTIONS. PROVIDE FITTINGS AND HANGARS AS REQUIRED. SEE DETAIL 2, AUTOMATIC AIR VENT EXTERIOR DRAIN LINE, SHEET FX501.
- 3** EXST COMM / IT ROOM: DO NOT ROUTE DRAIN LINE THROUGH THIS SPACE.

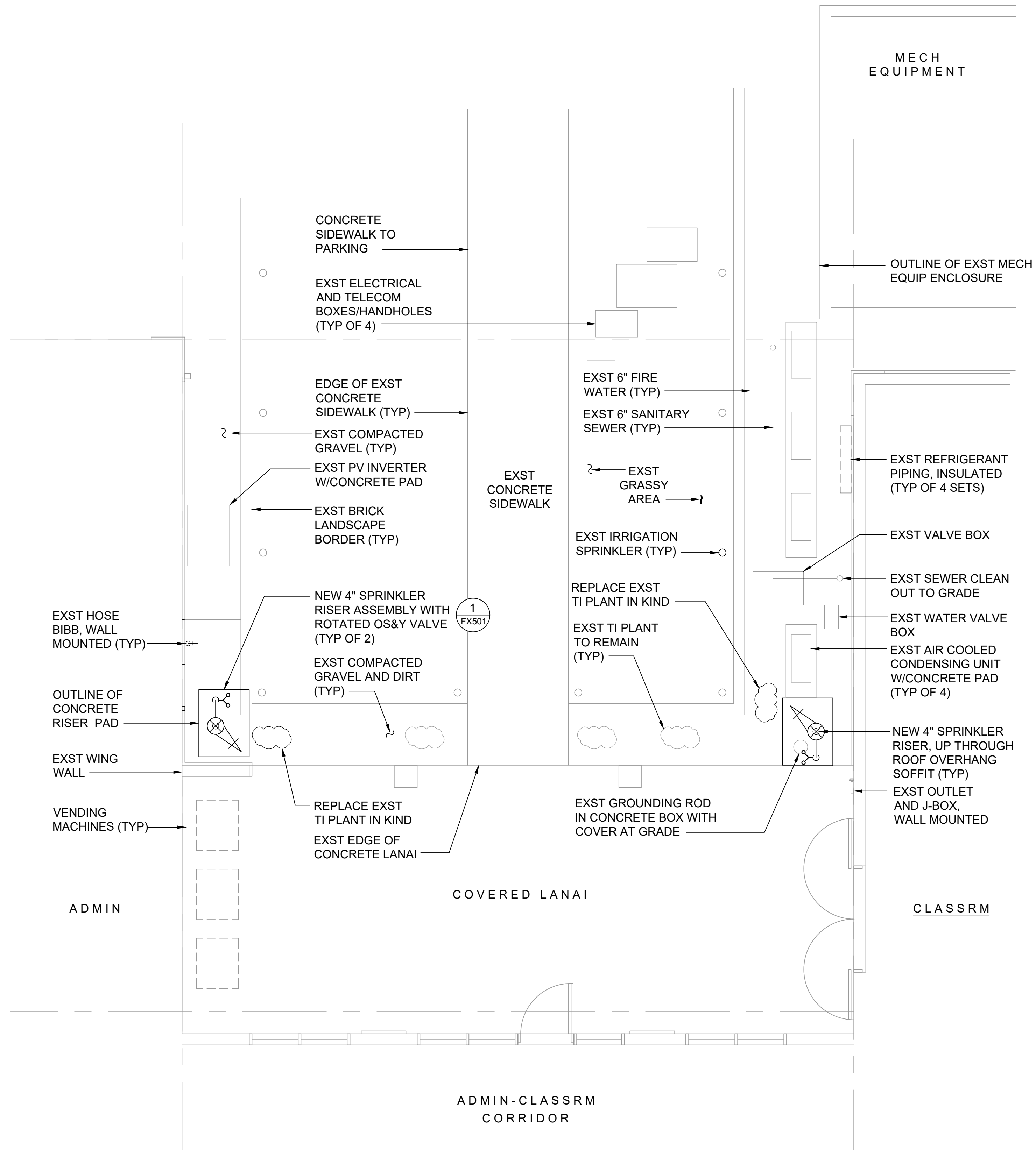
FIRE PROTECTION SYMBOLS & ABBREVIATIONS	
NEW	DESCRIPTION
●	PENDENT SPRINKLER
⊗	WET PIPE FIRE SPRINKLER RISER
⌊	PIPE CAP, EXISTING TO REMAIN
○	PIPE ELBOW UP, AS NOTED
⌋	PIPE ELBOW DOWN, AS NOTED
⊥	PIPE TEE DOWN, AS NOTED
⊥	PIPE TEE UP, AS NOTED
AV	AUTOMATIC HIGH POINT AIR VENT



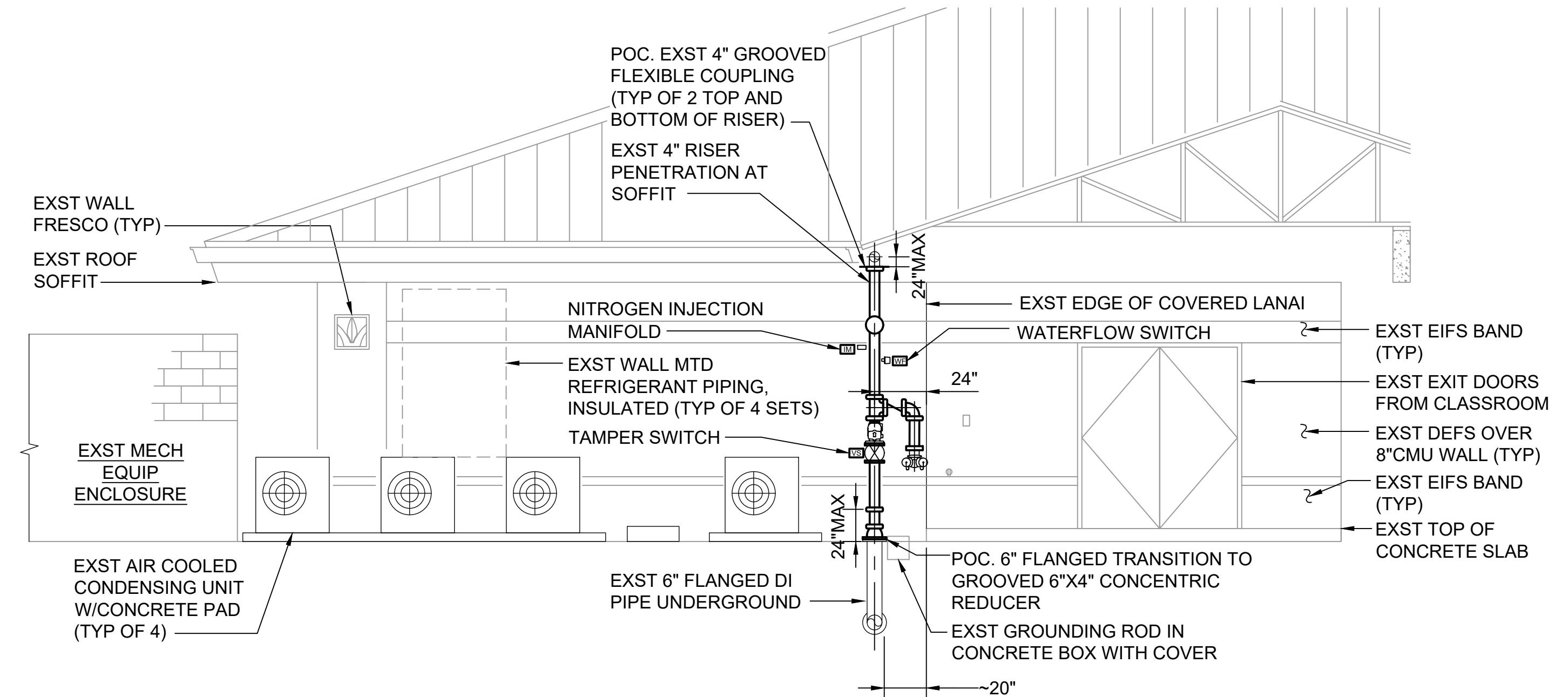
**KEY PLAN - BILLETS A&B SECOND FLOOR**

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII BILLETS A SECOND FLOOR - FIRE SPRINKLER FLOOR PLAN					
DESIGNED BY: TW		CHECKED BY: RTB		JOB NO. CA-202006-C	DRAWING NO. <b>FX107</b>
DRAWN BY: TW		APPROVED BY: JTH		DATE AUG 03, 2023	SHEET 38
SCALE: AS NOTED				License Exp: 04/30/2024	
FILE: _____ DRAWER: _____ FOLDER: _____					

← PARKING LOT (BEYOND) →



**1 ENLARGED FLOOR PLAN - CLASSROOM**  
SCALE: 1/4" = 1'-0"



**2 EXTERIOR ELEVATION - CLASSROOM**  
SCALE: 1/4" = 1'-0"



REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<p>DEPARTMENT OF DEFENSE STATE OF HAWAII</p> <p>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</p> <p>WAIMANALO, OAHU, HAWAII</p> <p>ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - CLASSROOM</p>					
<p>COFFMAN ENGINEERS</p> <p>DESIGNED BY: TW DRAWN BY: TW</p>			<p>CHECKED BY: RTB APPROVED BY: JTH</p>		<p>JOB NO. CA-202006-C</p> <p>DATE</p>
<p>SCALE: AS NOTED</p>			<p>AUG 03, 2023</p>		<p>DRAWING NO. <b>FX401</b></p> <p>SHEET 39</p> <p>OF 45 SHEETS</p>

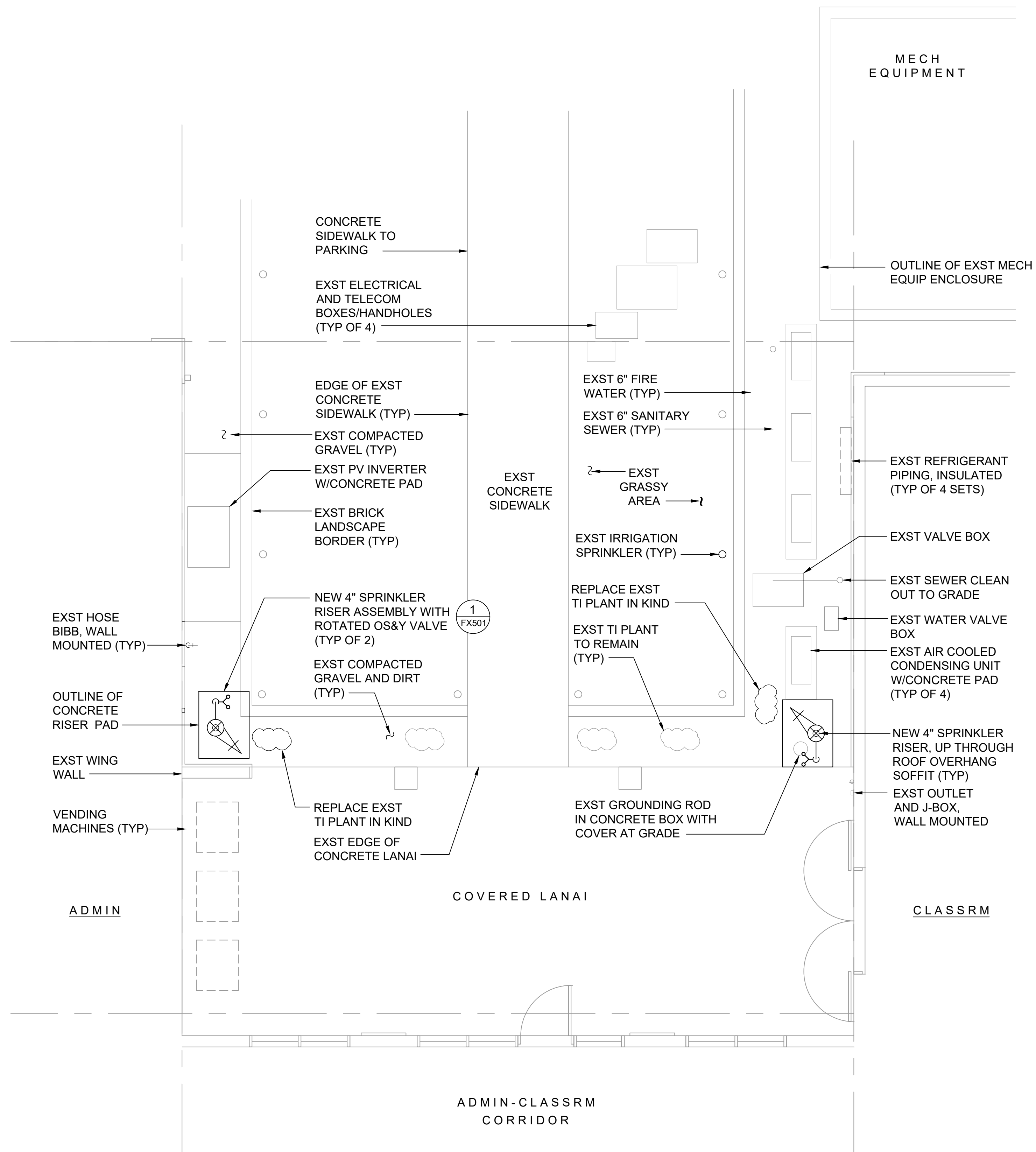


This work was prepared by me or under my supervision, and construction of this project will be under my observation.

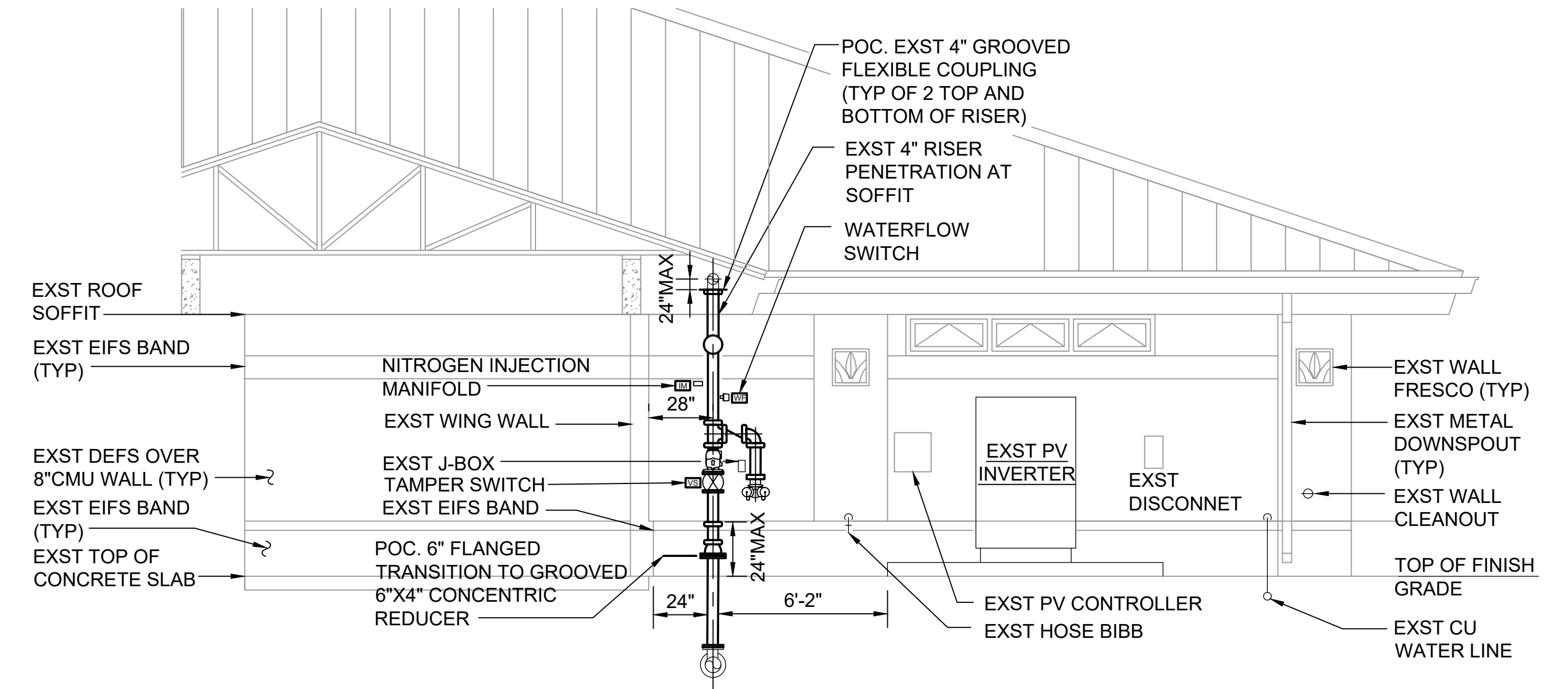
*Robert T. Blount*

License Exp: 04/30/2024

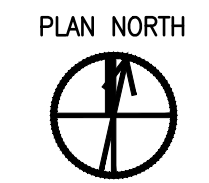
← PARKING LOT (BEYOND) →



**1 ENLARGED FLOOR PLAN - ADMINISTRATION**  
SCALE: 1/4" = 1'-0"

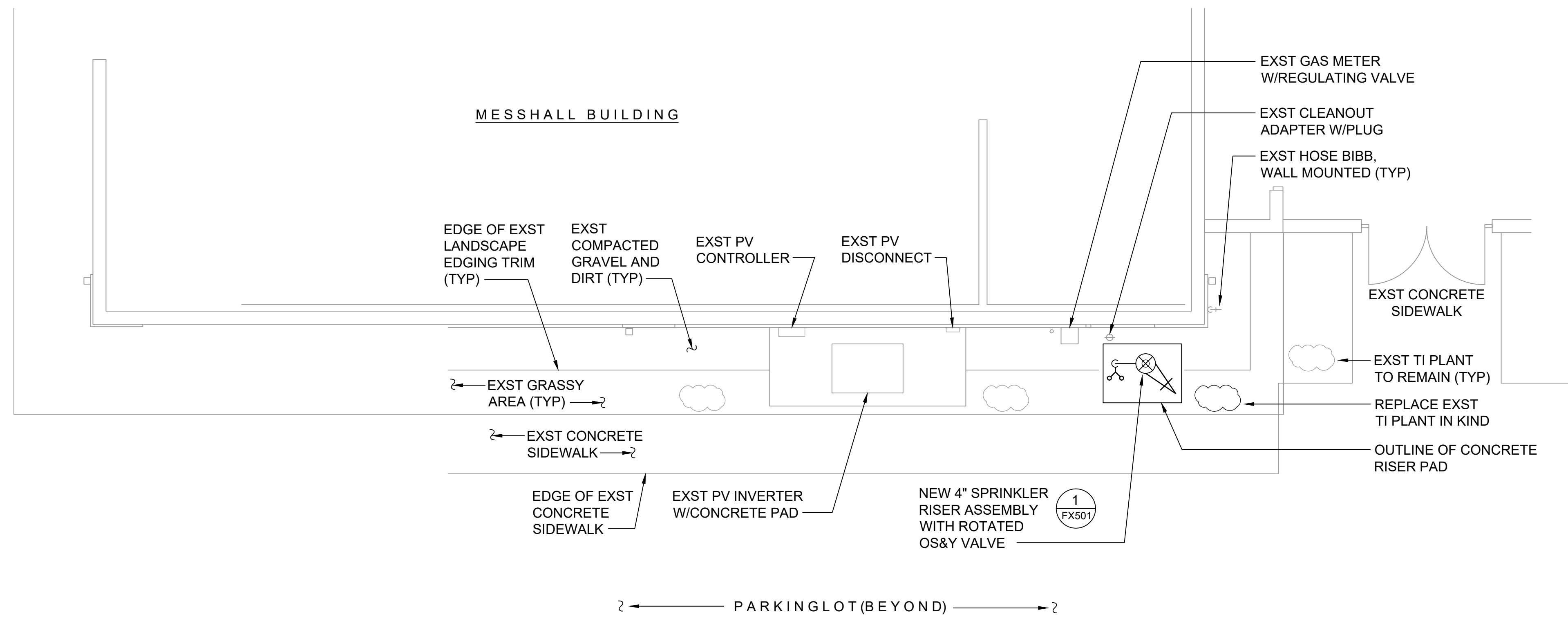


**2 EXTERIOR ELEVATION - ADMINISTRATION**  
SCALE: 1/4" = 1'-0"

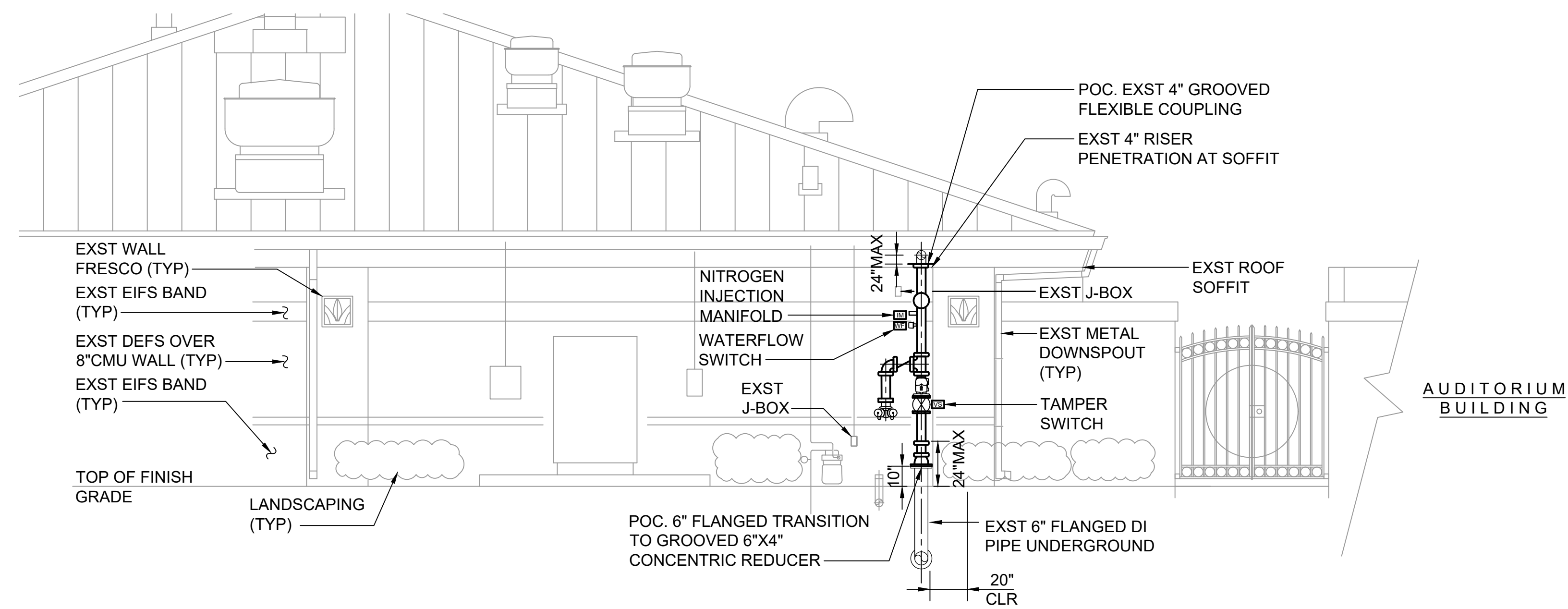


0 2' 4' 6'  
SCALE: 1/4" = 1'-0"

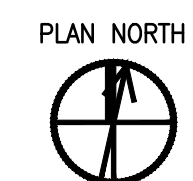
REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b> WAIMANALO, OAHU, HAWAII ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - ADMINISTRATION					
<b>COFFMAN ENGINEERS</b> DESIGNED BY: TW DRAWN BY: TW			CHECKED BY: RTB APPROVED BY: JTH		JOB NO. CA-202006-C DATE AUG 03, 2023
This work was prepared by me or under my supervision, and construction of this project will be under my observation.  License Exp: 04/30/2024			DRAWING NO. <b>FX402</b> SHEET 40 OF 45 SHEETS		SCALE: AS NOTED



**1 ENLARGED FLOOR PLAN - MESS HALL**  
SCALE: 1/4" = 1'-0"



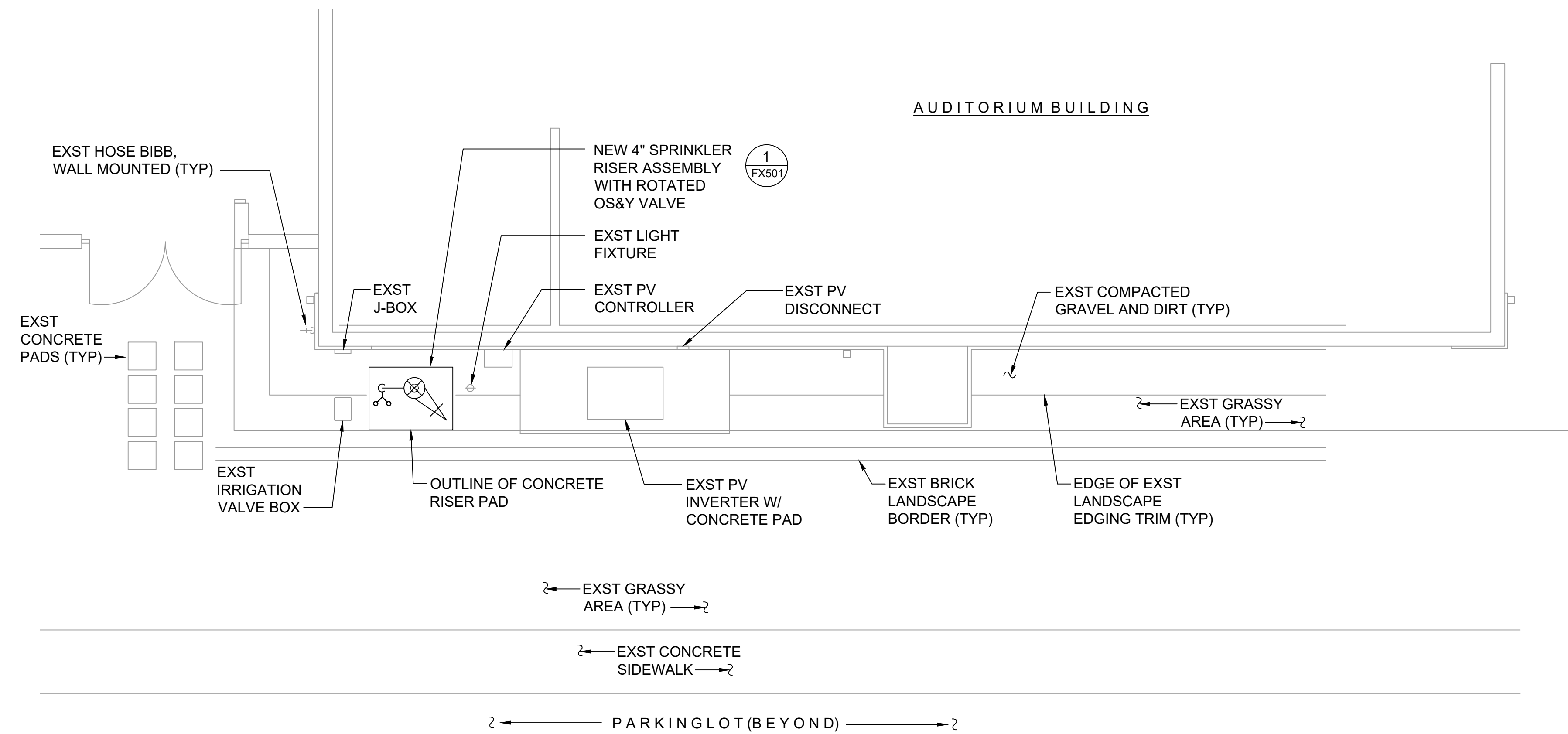
**2 EXTERIOR ELEVATION - MESS HALL**  
SCALE: 1/4" = 1'-0"



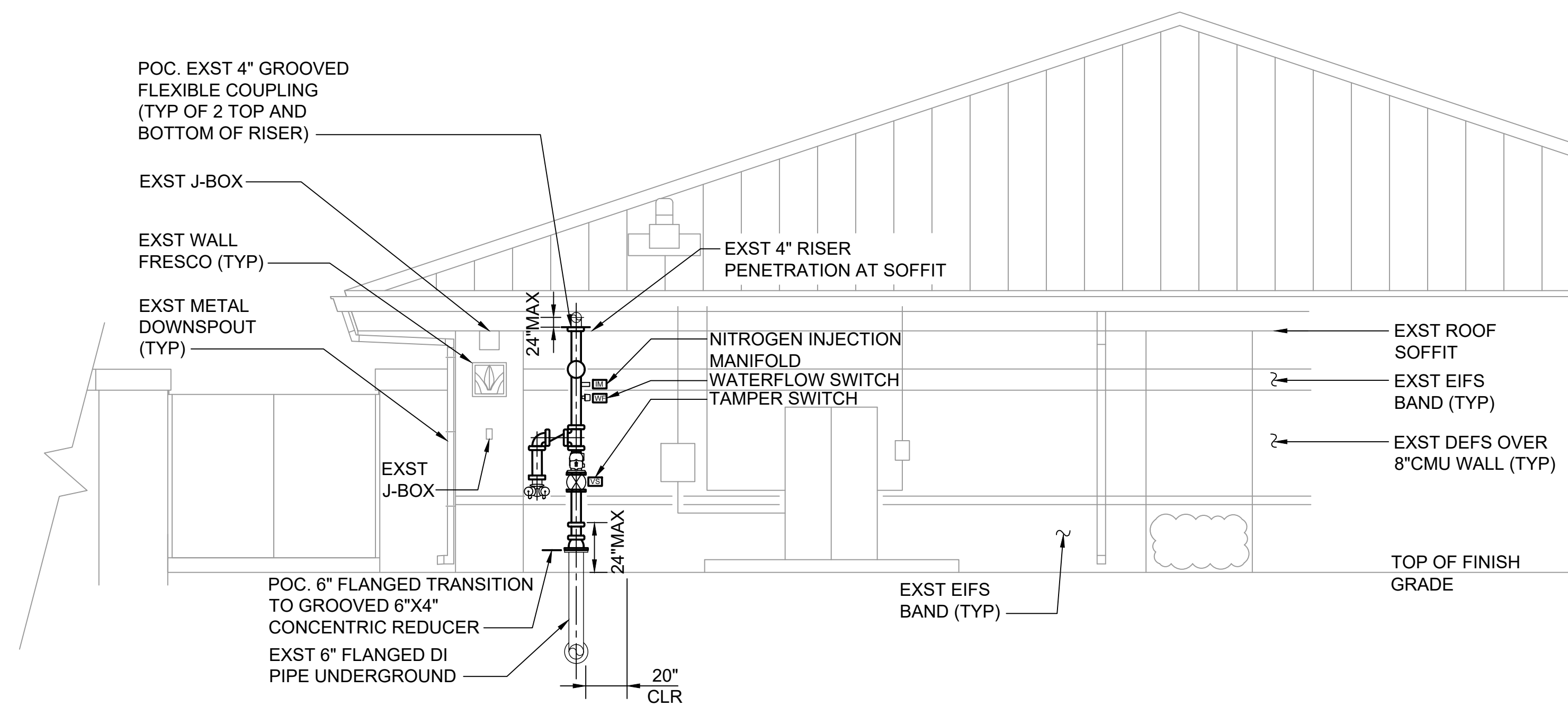
0 2' 4' 6'  
SCALE: 1/4" = 1'-0"

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - MESS HALL					
<b>COFFMAN ENGINEERS</b> DESIGNED BY: TW DRAWN BY: TW			CHECKED BY: RTB APPROVED BY: JTH		JOB NO. CA-202006-C DATE AUG 03, 2023
This work was prepared by me or under my supervision, and construction of this project will be under my observation.  License Exp: 04/30/2024			DRAWING NO. <b>FX403</b> SHEET 41 OF 45 SHEETS		SCALE: AS NOTED

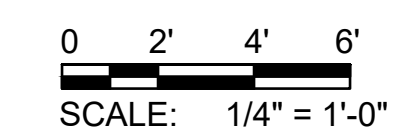





**1 ENLARGED FLOOR PLAN - AUDITORIUM**  
SCALE: 1/4" = 1'-0"



**2 EXTERIOR ELEVATION - AUDITORIUM**  
SCALE: 1/4" = 1'-0"



REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
					
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - AUDITORIUM					
<b>COFFMAN ENGINEERS</b>		JOB NO. CA-202006-C		DRAWING NO. <b>FX404</b>	
DESIGNED BY: TW	CHECKED BY: RTB	DATE		SHEET 42	
DRAWN BY: TW	APPROVED BY: JTH	DATE		SHEET 42	
SCALE: AS NOTED		AUG 03, 2023		OF 45 SHEETS	

This work was prepared by me or under my supervision, and construction of this project will be under my observation.

License Exp: 04/30/2024

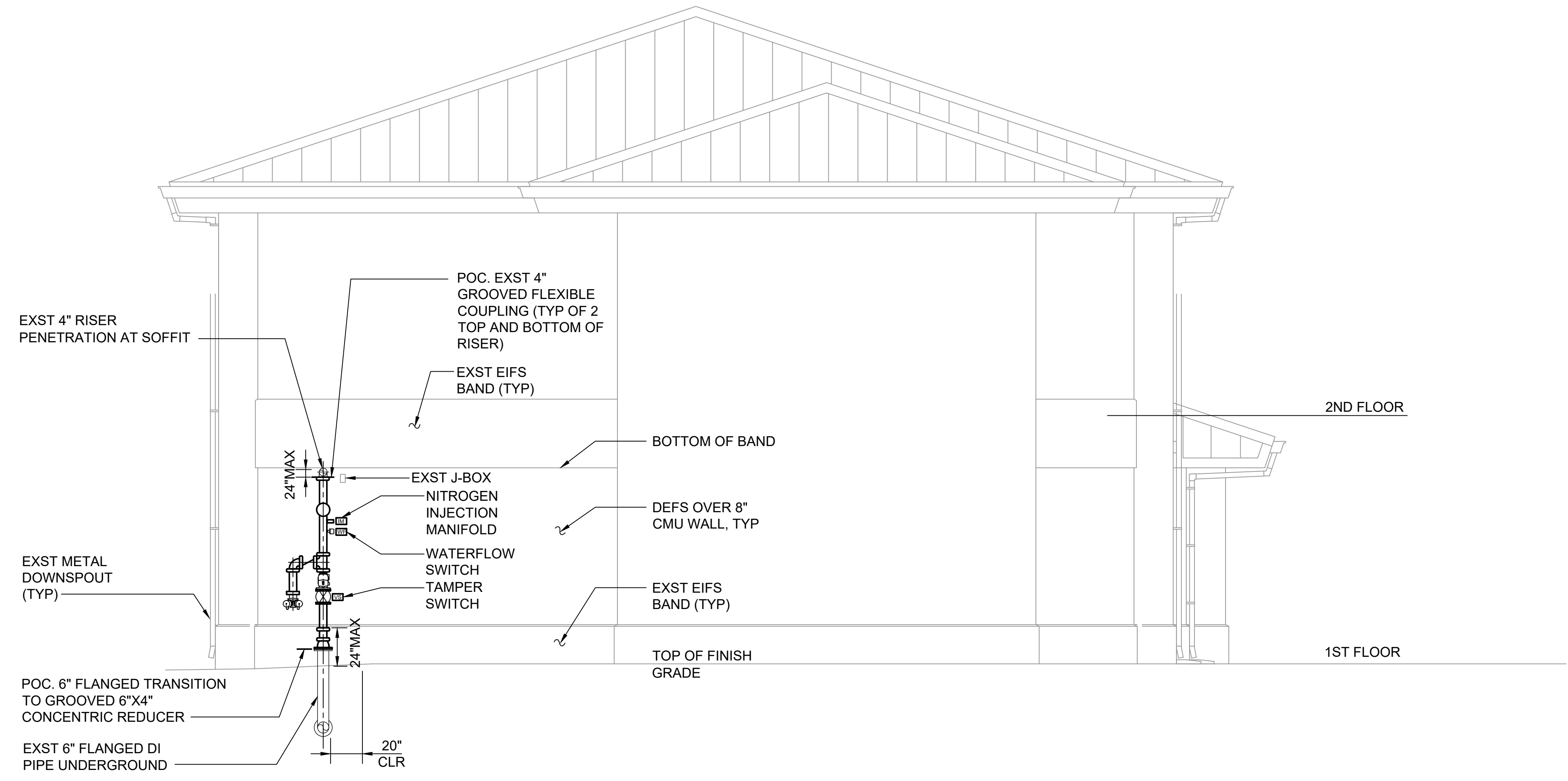
FILE: \_\_\_\_\_ DRAWER: \_\_\_\_\_ FOLDER: \_\_\_\_\_



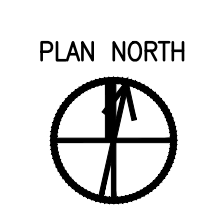
NOTES:


1. FIRE SPRINKLER RISER SHOWN ON THIS DWG IS EXISTING AND SERVES BILLETS A, B, AND SHARED BREEZEWAY AREAS.
2. BILLET B IS EXISTING. THERE IS NO PROJECT SCOPE OF WORK FOR BILLET B.
3. BILLETS B WILL BE OCCUPIED DURING FIRE SPRINKLER SYSTEM REPLACEMENT WORK AT BILLET A AND SHARED BREEZEWAY.
4. CONTRACTOR MUST PROVIDE A FIRE WATCH FOR BILLET B DURING FIRE SPRINKLER SYSTEM REPLACEMENT WORK FOR BILLET A AND SHARED BREEZEWAY.

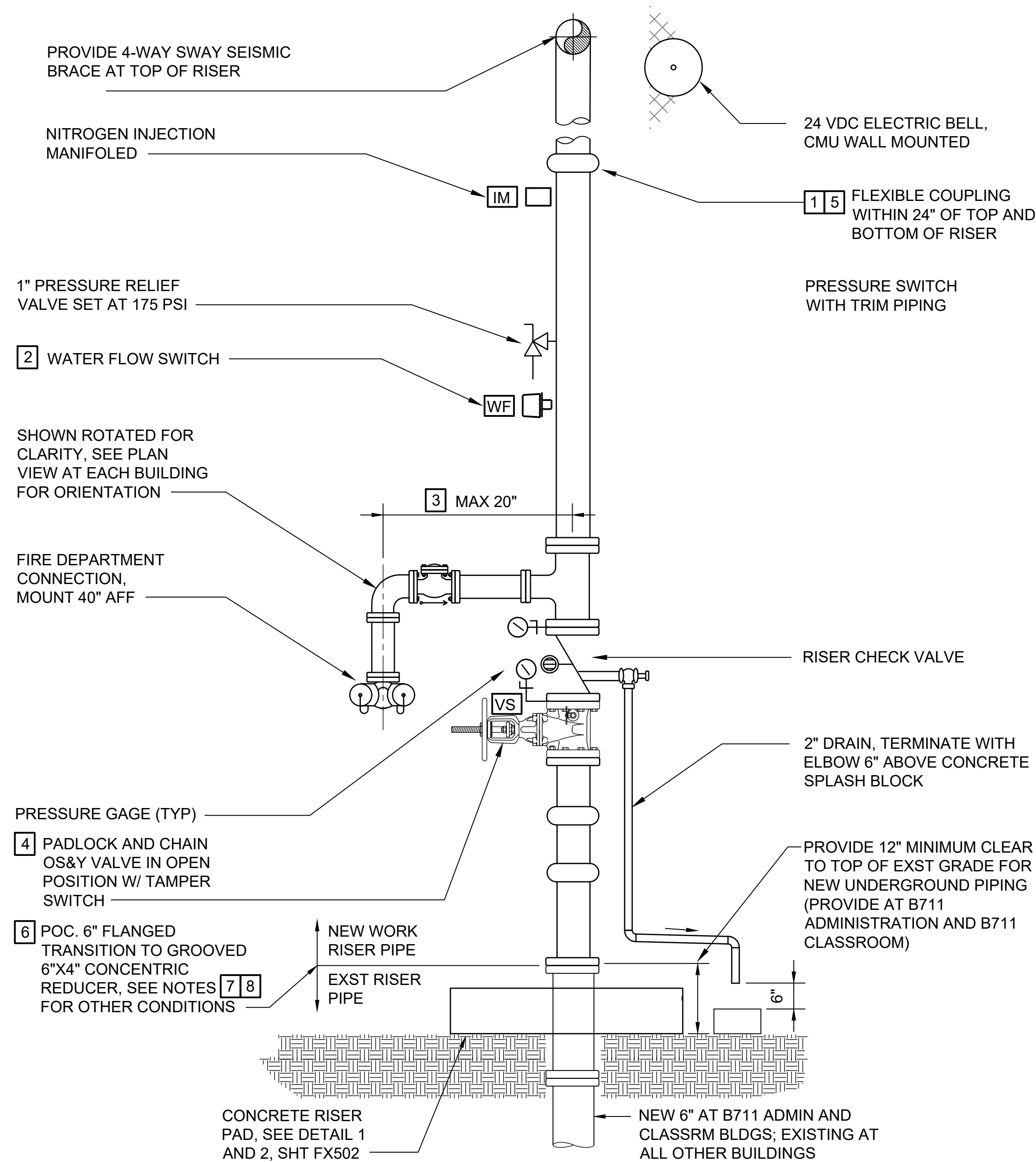
**1 ENLARGED FLOOR PLAN - BILLETS A**  
SCALE: 1/4" = 1'-0"



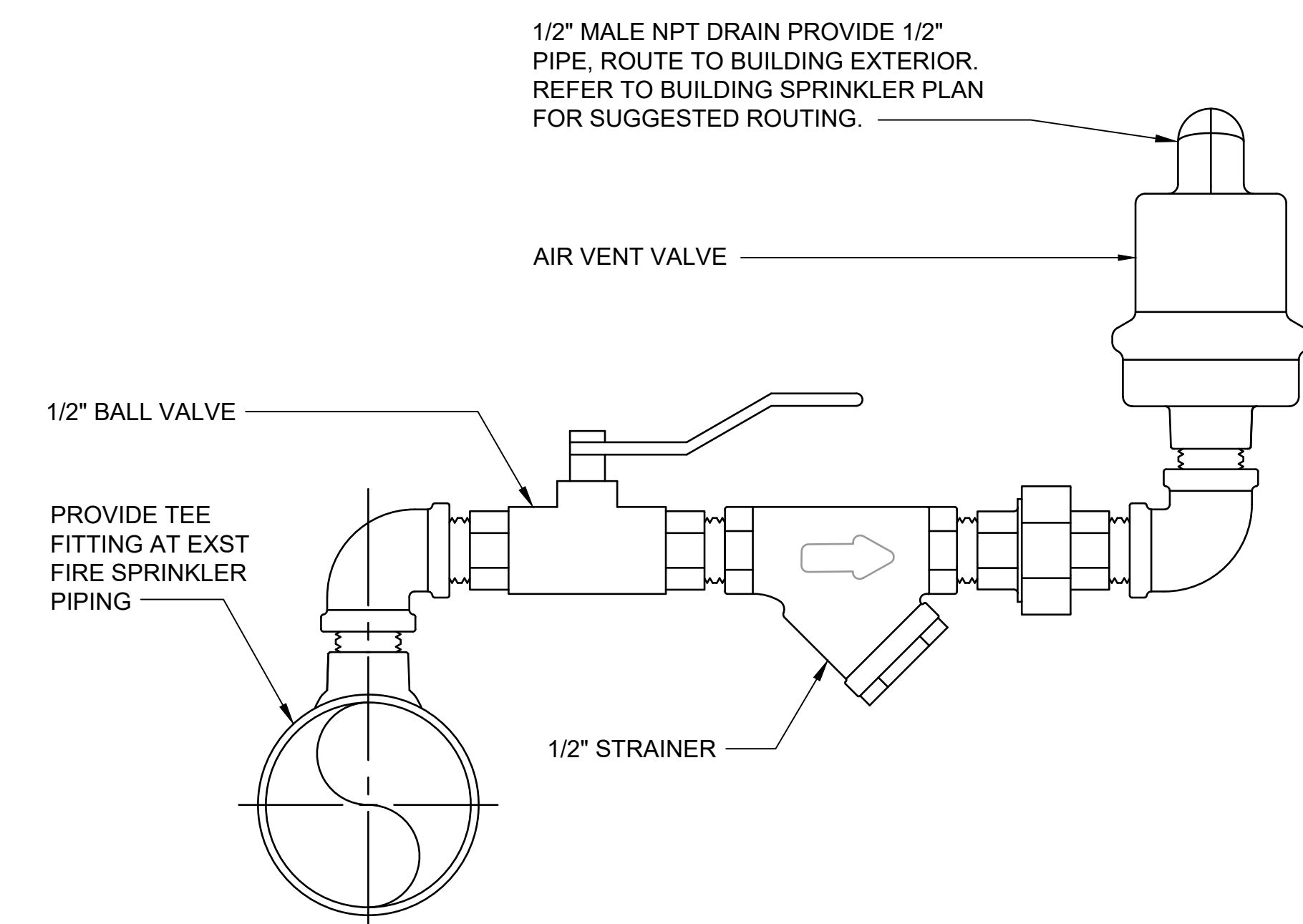
**2 EXTERIOR ELEVATION - BILLETS A**  
SCALE: 1/4" = 1'-0"



REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
					
<b>DEPARTMENT OF DEFENSE</b> STATE OF HAWAII					
<b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>					
WAIMANALO, OAHU, HAWAII					
ENLARGED FLOOR PLAN AND EXTERIOR ELEVATION - BILLETS A					
DESIGNED BY: TW		CHECKED BY: RTB		JOB NO. CA-202006-C	DRAWING NO. <b>FX405</b>
DRAWN BY: TW		APPROVED BY: JTH		DATE	SHEET 43
SCALE: AS NOTED		DATE: AUG 03, 2023		OF 45 SHEETS	
License Exp: 04/30/2024					



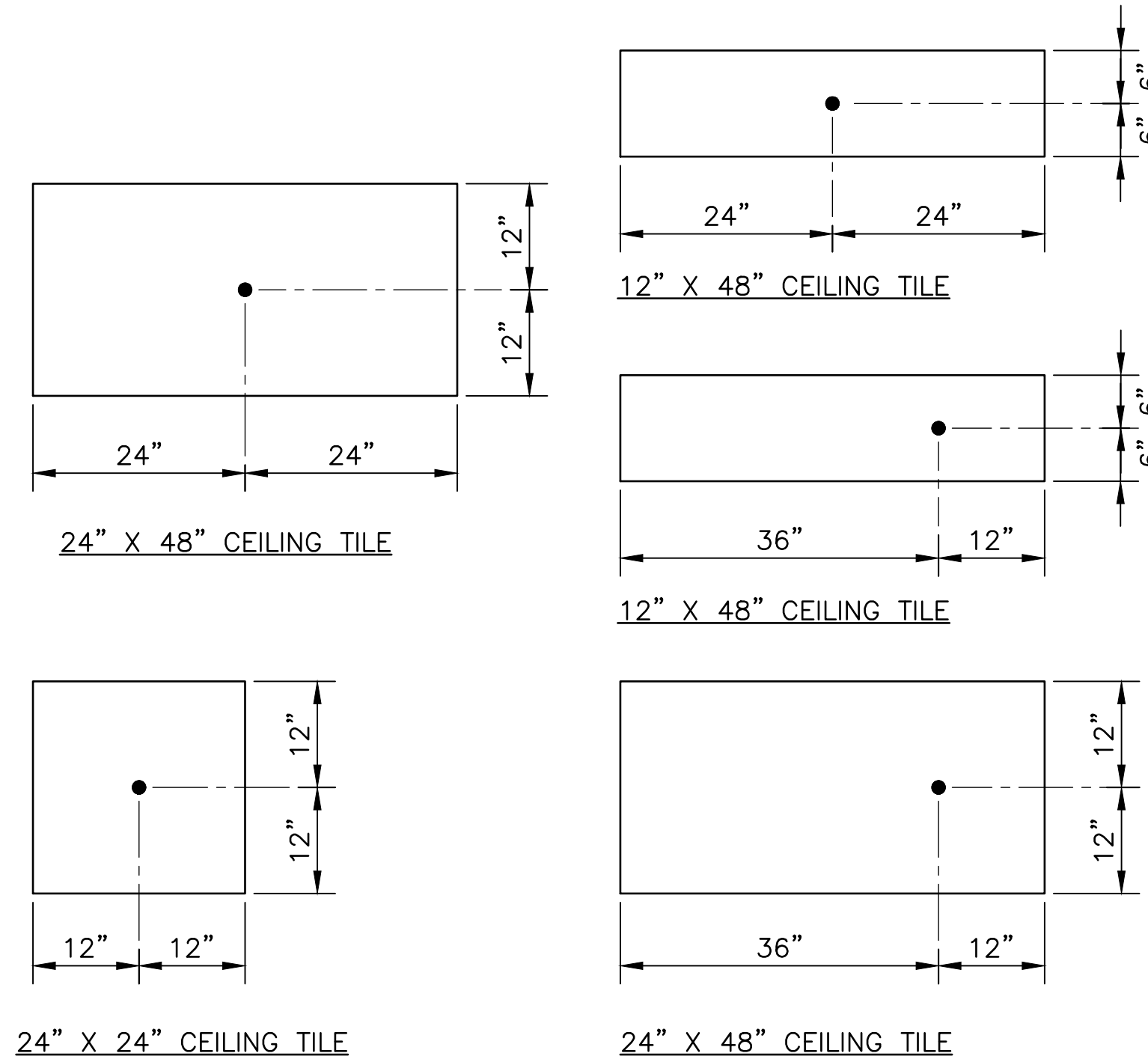
**1 WET PIPE FIRE SPRINKLER RISER DETAIL**  
SCALE: NTS



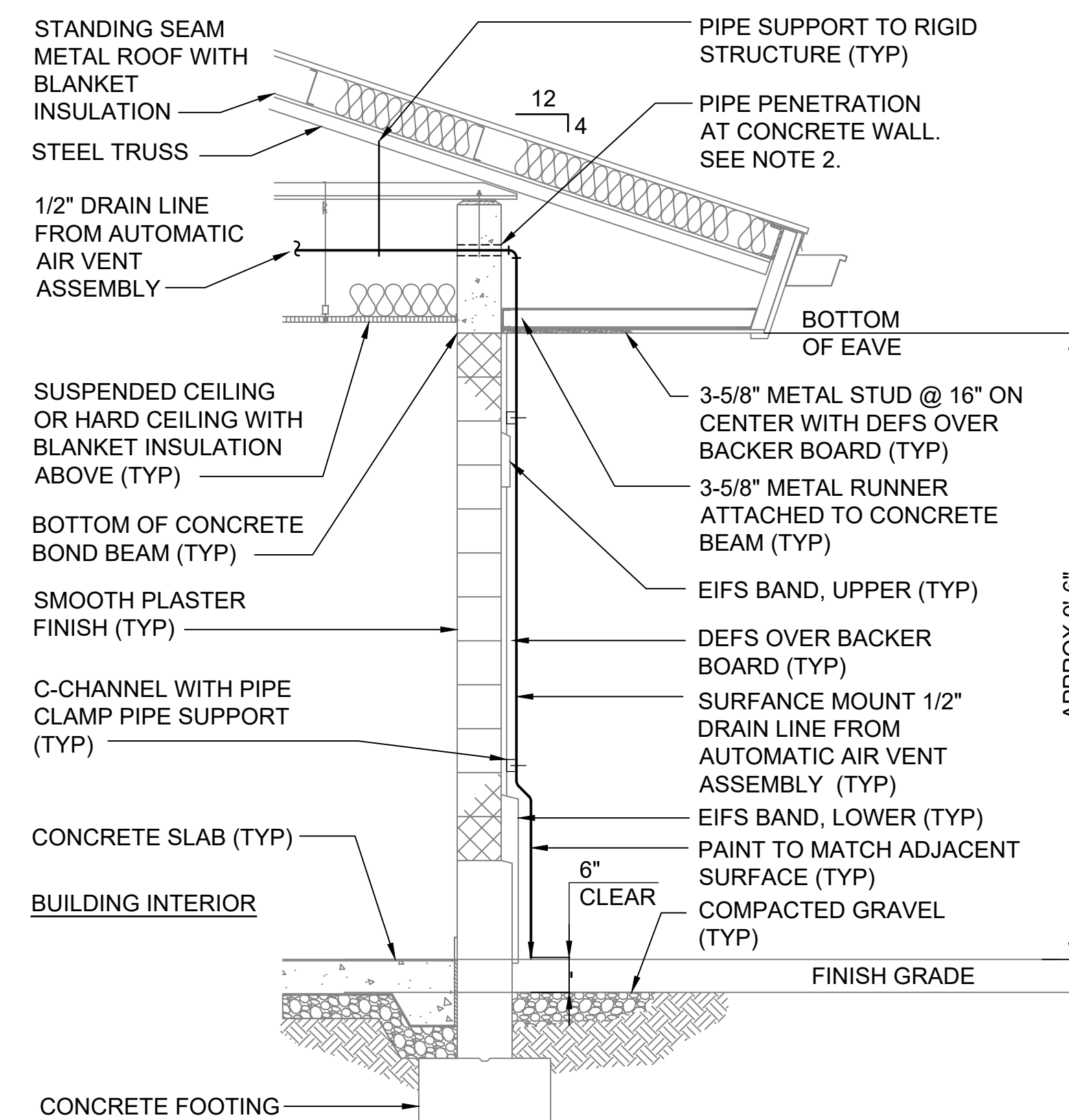
**3 AUTOMATIC AIR VENT DETAIL**  
SCALE: NTS

**WET PIPE FIRE SPRINKLER RISER NOTES: TYPICAL AT EACH BUILDING**

1. CONTRACTOR MUST FIELD VERIFY CONFIGURATION OF EXST TOP OF RISER TO FLEXIBLE CONNECTION PRIOR TO START OF ANY WORK.
2. PROVIDE NEW WATER FLOW SWITCH AND CONNECT TO EXISTING FIRE ALARM SYSTEM
3. CONTRACTOR MUST LIMIT DISTANCE FROM CENTER LINE OF FIRE DEPARTMENT CONNECTION TO CENTER LINE OF RISER TO 20-INCHES.
4. CONTRACTOR MUST CLEARLY SHOW ORIENTATION AND DISTANCE TO END STEM OF PROPOSED OS&Y IN SHOP DRAWINGS.
5. TOP OF RISER MAY BE ABOVE ROOF OVERHANG OR SOFFIT. CONTRACTOR MUST FIELD VERIFY CONDITION AT EACH BUILDING RISER. FLEXIBLE COUPLING MUST BE INSTALLED WITHIN 24-INCHES OF TOP OF RISER.
6. CONTRACTOR MUST FIELD VERIFY EXISTING AND NEW WORK POINT OF CONNECTION AT EACH RISER. SEE NOTE 7 (DETAIL 4) AND NOTE 8 (DETAIL 5) FOR ADMINISTRATION AND CLASSROOM BUILDING RISER CONDITIONS.
7. B711 ADMINISTRATION BUILDING: TOP OF 6-INCH FLANGE FOR UNDERGROUND PORTION OF RISER IS LESS THAN 8-INCHES ABOVE EXISTING FINISH GRADE. CONTRACTOR MUST REPLACE EXISTING UNDERGROUND PORTION OF RISER TO TOP OF EXISTING TOP OF FLANGED 1/4 BEND ELBOW AT BASE OF RISER. SEE PHOTO 4 BELOW.
8. B711 CLASSROOM BUILDING: 4-INCH RISER EXPOSED AT GRADE APPEARS TO CONTINUE DOWN TO TOP OF EXISTING FLANGED 1/4 BEND AT BASE OF RISER. CONTRACTOR MUST REPLACE EXISTING UNDERGROUND PORTION OF RISER TO TOP OF EXISTING TOP OF FLANGED 1/4 BEND ELBOW AT BASE OF RISER. SEE PHOTO 5 BELOW.
9. B714 BILLETS A: EXISTING RISER TO BE REPLACED, EXISTING LOCATION TO REMAIN. THIS RISER SERVES BILLETS A AND B.
10. B711 ADMINISTRATION BUILDING: COUPLING AT UNDERGROUND AND ABOVEGROUND PIPE INTERFACE IS LESS THAN 12-INCHES ABOVE EXISTING FINISH GRADE. REPLACE EXISTING UNDERGROUND PIPING OF RISER TO TOP OF EXISTING TOP FLANGED 1/4 BEND ELBOW AT BASE OF RISER. SEE PHOTO 4.
11. B711 CLASSROOM BUILDING: COUPLING AT UNDERGROUND AND ABOVEGROUND PIPE INTERFACE IS LESS THAN 12-INCHES ABOVE EXISTING FINISH GRADE. REPLACE EXISTING UNDERGROUND PIPING OF RISER TO TOP OF EXISTING TOP FLANGED 1/4 BEND ELBOW AT BASE OF RISER. SEE PHOTO 5.



**4 SPRINKLER LOCATIONS IN TILE CEILING**  
SCALE: NTS



**AUTOMATIC AIR VENT DRAIN LINE NOTES**

1. COORDINATE PIPE PENETRATION WORK WITH BUILDING MANAGER. COMPLY WITH FACILITY REQUIREMENTS FOR LOUD WORK.
2. PIPE PENETRATION MUST BE IN ACCORDANCE WITH NFPA 13. FIRESTOP PIPE PENETRATION, PROVIDE STAINLESS STEEL ESCUTCHEON AT PIPE PENETRATION ON EXTERIOR SIDE OF BUILDING, PROVIDE CONTINUOUS ELASTOMERIC SEAL AROUND ESCUTCHEON.
3. ROUTE DRAIN LINE TO CLEAR EXISTING OBSTRUCTIONS BOTH INSIDE CEILING SPACE AND ALONG BUILDING EXTERIOR WALL SURFACES INCLUDING, BUT NOT LIMITED TO UPPER AND LOWER EIFS BANDS, SURFACE MOUNTED CONDUITS OR PIPES, AND STRUCTURAL FRAMING MEMBERS.
4. ROUTE DRAIN LINE TO CLEAR EXTERIOR WINDOW OR DOOR OPENINGS AND BUILDING SIGNAGE.
5. DISCHARGE DRAIN MUST TERMINATE A MINIMUM OF 6-INCHES ABOVE EXISTING COMPACTED GRAVEL BED OR GRASSY AREA.
6. PROVIDE PIPE SUPPORTS IN ACCORDANCE WITH NFPA 13.
7. PROVIDE PIPE SUPPORT FOR DRAIN LINE INCLUDING C-CHANNEL TO OFFSET PIPE FROM EXTERIOR WALL FACE TO CLEAR OBSTRUCTIONS. ATTACH DRAIN LINE WITH PIPE CLAMP TO C-CHANNEL. SECURE DRAIN LINE TO DEFS SURFACE ONLY. DO NOT ATTACH PIPE SUPPORT TO UPPER OR LOWER EIFS BANDS. PAINT PIPE AND PIPE SUPPORT TO MATCH ADJACENT AND ADJOINING SURFACE. STACK C-CHANNELS AS REQUIRED TO CLEAR EIFS BANDS. (TYP)

**2 AUTOMATIC AIR VENT EXTERIOR DRAIN LINE**  
SCALE: 1/2"=1'-0"

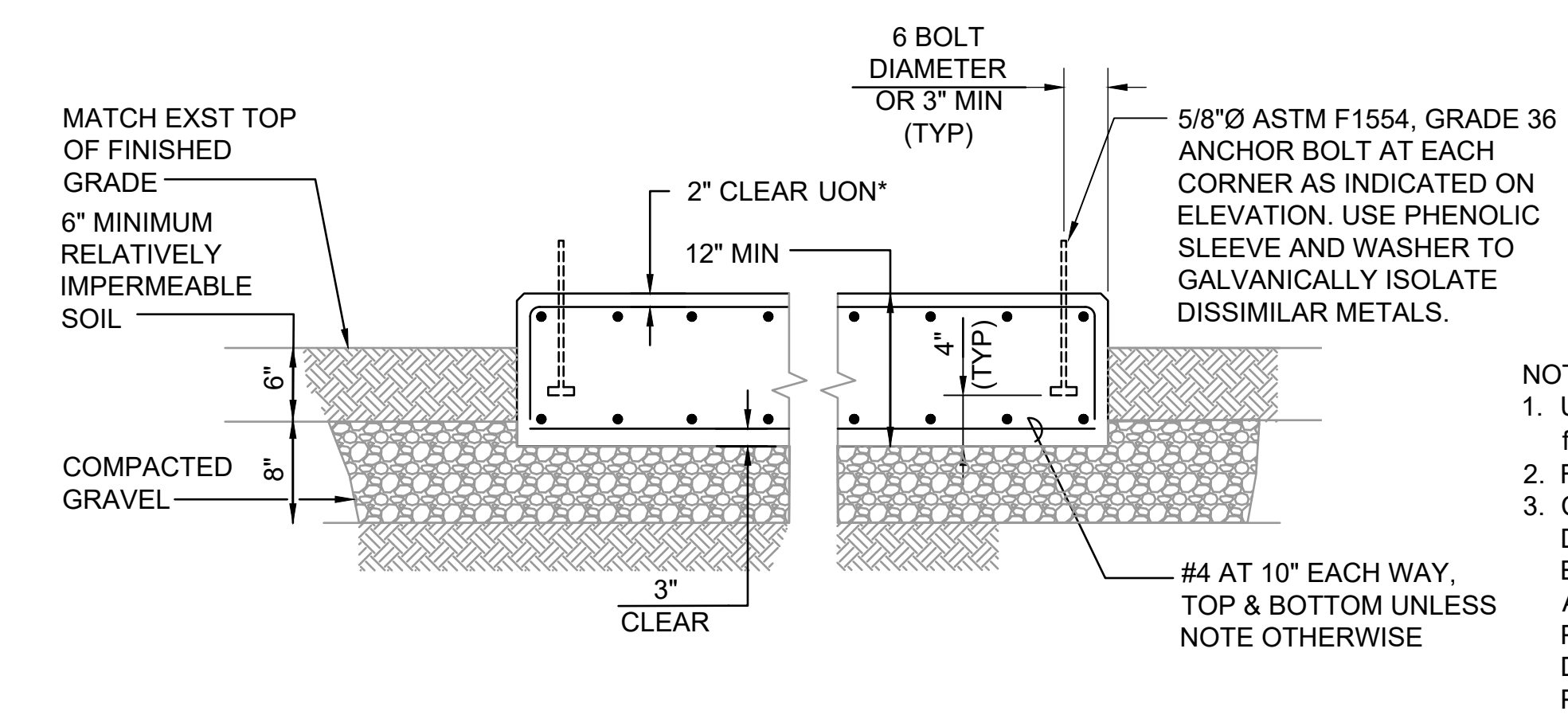
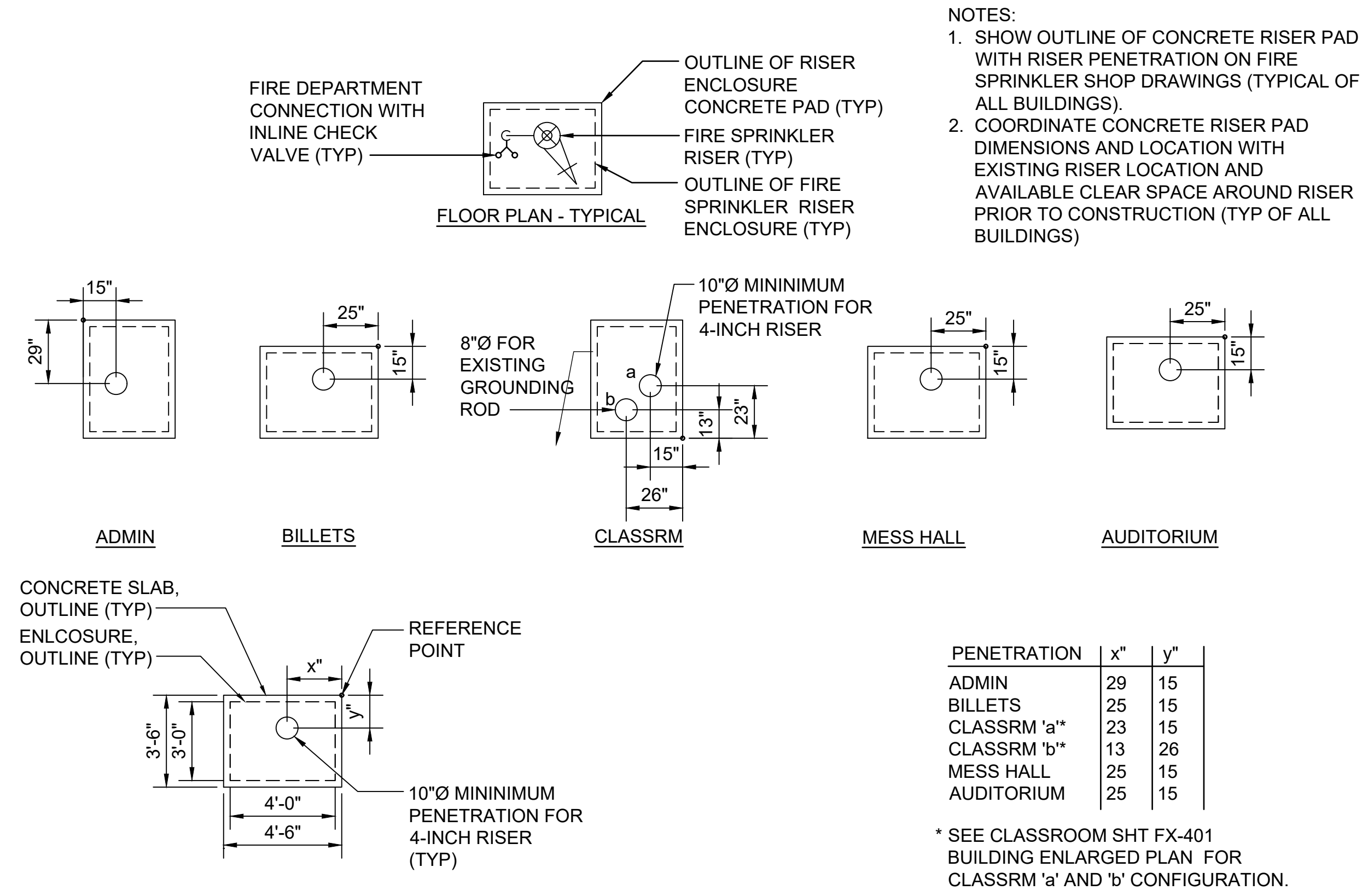


**5 B711 ADMIN BLDG - EXST RISER CONDITION AT GRADE**  
SCALE: NONE

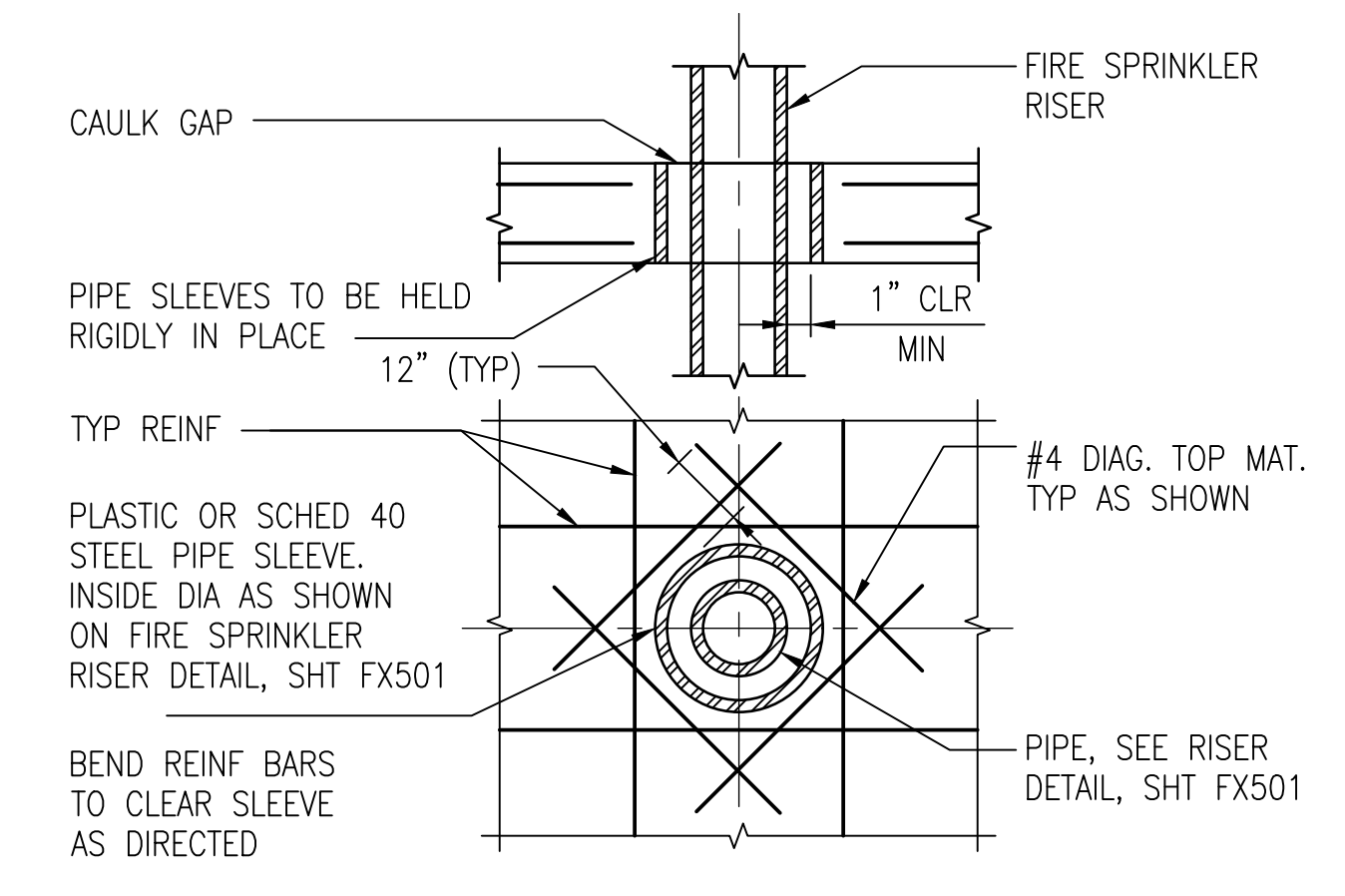


**6 B711 CLASSROOM - EXST RISER CONDITION AT GRADE**  
SCALE: NONE

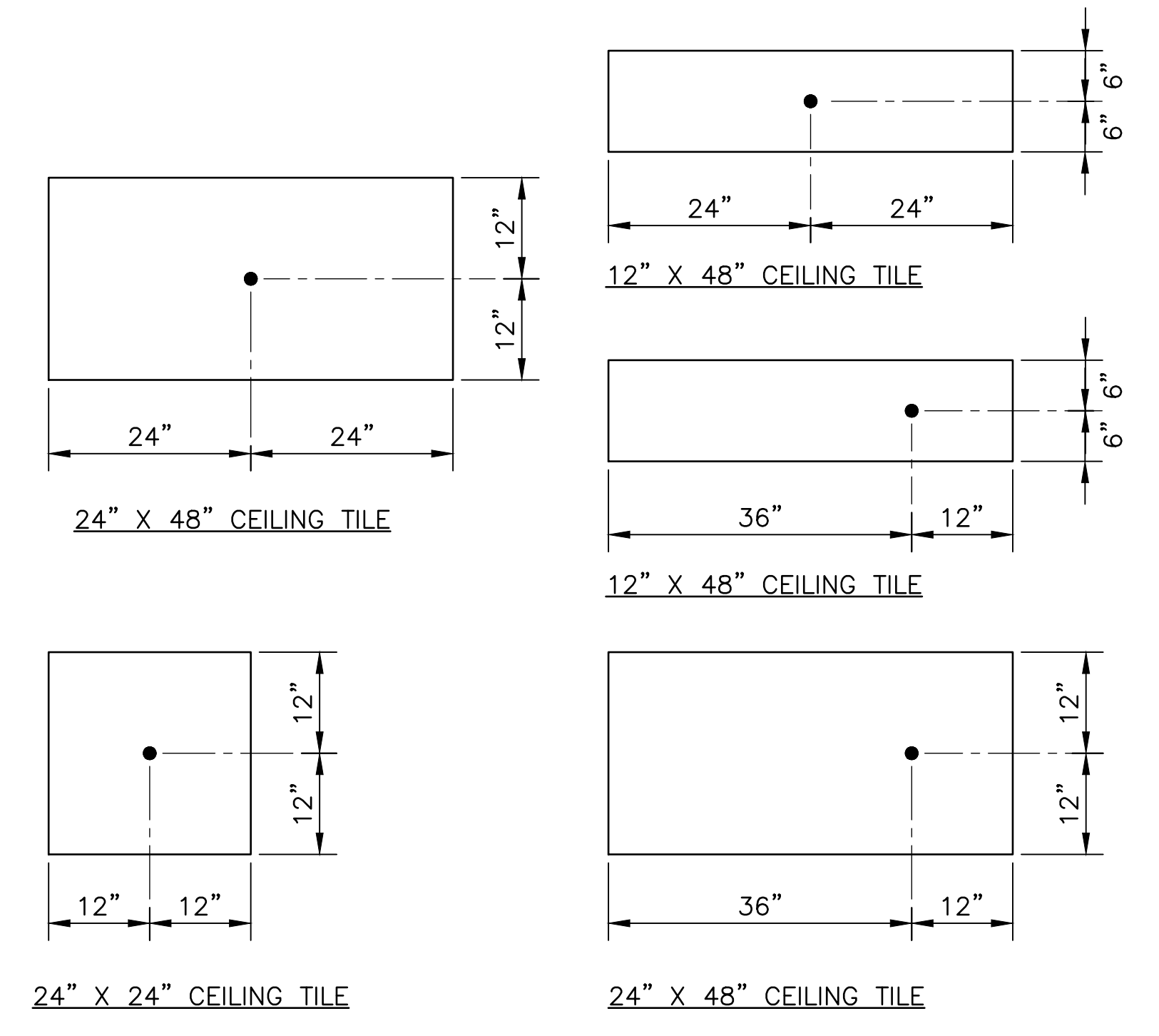
REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
<p>DEPARTMENT OF DEFENSE STATE OF HAWAII</p> <p>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</p> <p>WAIMANALO, OAHU, HAWAII</p> <p>FIRE SPRINKLER DETAILS</p>					
<p>COFFMAN ENGINEERS</p> <p>DESIGNED BY: TW</p> <p>DRAWN BY: TW</p>			<p>JOB NO. CA-202006-C</p> <p>CHECKED BY: RTB</p> <p>APPROVED BY: JTH</p>		<p>DRAWING NO. FX501</p> <p>SHEET 44</p> <p>OF 45 SHEETS</p>
<p>SCALE: AS NOTED</p>			<p>DATE: AUG 03, 2023</p>		<p>LICENSE EXP: 04/30/2024</p>



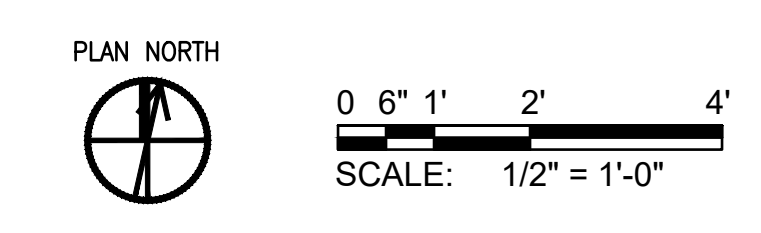
**2 CONCRETE RISER PAD**  
SCALE: NTS



**4 TYP REINFORCEMENT AT PIPE SLEEVE**  
SCALE: NTS



**3 SPRINKLER LOCATIONS IN TILE CEILING**  
SCALE: NTS



- NOTES:
- UNLESS OTHERWISE NOTED (UON\*)  
f<sub>c</sub>=4,000 PSI WITH W/C ≤0.45.
  - REINFORCING IS ASTM A615 GRADE 60.
  - COORDINATE CONCRETE RISER PAD DIMENSIONS AND LOCATION WITH EXISTING RISER LOCATION AND AVAILABLE CLEAR SPACE AROUND RISER PRIOR TO CONSTRUCTION. REFER TO DETAIL 4 FOR REINFORCEMENT AT RISER PENETRATION (TYP OF ALL BUILDINGS)

REV NO.	SYM	DESCRIPTION	SHT. OF	DATE	APPROVED: DOD ADMINISTRATOR
DEPARTMENT OF DEFENSE STATE OF HAWAII  <b>FIRE SPRINKLER SYSTEMS REPLACEMENT PROJECT</b>  WAIMANALO, OAHU, HAWAII  FIRE SPRINKLER DETAILS					
		<b>COFFMAN ENGINEERS</b>		JOB NO. CA-202006-C	DRAWING NO. <b>FX502</b>
DESIGNED BY:	TW	CHECKED BY:	RTB	DATE	SHEET
DRAWN BY:	TW	APPROVED BY:	JTH		45
SCALE: AS NOTED			AUG 03, 2023		OF 45 SHEETS

This work was prepared by me or under my supervision, and construction of this project will be under my observation.

License Exp: 04/30/2024

## **DIVISION 1 - GENERAL REQUIREMENTS**

### **SECTION 01100 - PROJECT REQUIREMENTS**

#### **PART 1 - GENERAL**

##### **1.01 WORK COVERED BY CONTRACT DOCUMENTS**

###### **A. Project Identification:**

The project work scope includes work indicated in these construction drawings and project specifications:

A. Complete replacement of five (5) existing wet pipe fire sprinkler systems, and the installation of one (1) automatic air vent onto each new fire sprinkler distribution piping system with a nitrogen inerting system at the following buildings:

1. B711 Administration
2. B711 Classrooms
3. B712 Mess Hall
4. B713 Auditorium
5. B714 Billets A, including Physical Fitness and Laundry Area

For all buildings listed above, provide continuous fire watch as required in construction drawings and in accordance with the Honolulu Fire Department.

B. The nitrogen inerting system is a risk mitigation component used to limit air bubbles from becoming entrapped in the existing interior sprinkler distribution piping system. Nitrogen will be introduced into the empty fire sprinkler riser and piping system prior to being filled with water.

C. New concrete pads will be provided for the new exterior fire sprinkler risers for each building.

D. Work also includes the removal and repair of existing hard and drop ceiling systems in areas indicated on the drawings for the installation of the new automatic sprinkler systems, including sprinkler heads, piping, valves, and hangars within each building.

1. Project Location: 711 Tinker Rd, Waimanalo, HI 96706

B. The work consists of the complete replacement of five (5) existing wet pipe fire sprinkler systems including the fire sprinkler risers, and the installation of one (1) automatic air vent onto each new fire sprinkler distribution piping system with a nitrogen inerting system at the following buildings:

1. B711 Administration
2. B711 Classrooms
3. B712 Mess Hall
4. B713 Auditorium
5. B714 Billets A, including Physical Fitness and Laundry Area

For all buildings listed above, provide continuous fire watch as required in construction drawings and in accordance with the Honolulu Fire Department.

- C. Perform operations and furnish equipment, fixtures, appliances, tools, materials, related items and labor necessary to execute, complete and deliver the Work as required by the Contract Documents.
- D. The Division and Sections into which these specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to work specified within each section.
- E. Contractor shall not alter the Drawings and Specification. If an error or discrepancy is found, notify the Contracting Officer.
- F. Specifying of interface and coordination in the various specification sections is provided for information and convenience only. These requirements in the various sections shall complement the requirements of this Section.

## **1.02 SPECIFICATION FORMATS AND CONVENTIONS**

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated and include incomplete sentences. Omission of words or phrases such as “the Contractor shall”, “as shown on the drawings”, “a”, “an”, and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the Work.
  - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    - a. The words “shall”, “shall be”, or “shall comply with”, depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 3. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research’s “Encyclopedia of Associations” or in Columbia Books’ “National Trade & Professional Associations of the U.S.”.

## B. Terms

1. Directed: Terms such as “directed”, “requested”, “authorized”, “selected”, “approved”, “required”, and “permitted” mean directed by Contracting Officer, requested by Contracting Officer, and similar phrases.
2. Indicated: The term “indicated” refers to graphic representations, notes, or schedules on drawings or to other paragraphs or schedules in specifications and similar requirements in the Contract Documents. Terms such as “shown”, “noted”, “scheduled”, and “specified” are used to help the user locate the reference.
3. Furnish: The term “furnish” means to supply and deliver to project site, ready for unloading, unpacking, assembly, and similar operations.
4. Install: The term “install” describes operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
5. Provide: The terms “provide” or “provides” means to furnish and install, complete and ready for the intended use.
6. Installer: An installer is the Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-Subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
7. Submit: Terms such as “submit”, “furnish”, “provide”, and “prepare” and similar phrases in the context of a submittal, means to submit to the Contracting Officer.

## C. Industry Standards

1. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
2. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
3. Conflicting Requirements: If compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Contracting Officer for a decision before proceeding.

### 1.03 CONTRACT

- A. Refer to SECTION 00800 - SPECIAL CONDITIONS for other contract conditions.
- B. Construction Window:
  - 1. Project Start Date: *Nov 15, 2023*
  - 2. Jobsite Start Date *Dec 01, 2023*
  - 3. Jobsite Completion Date *May 14, 2025*

### 1.04 WORK SEQUENCE

- A. All work shall be substantially complete and ready for occupancy within 540 Calendar Days after NTP.

### EXAMPLE

- B. Temporary Service Road:
  - 1. The existing service road from Street A, which serves Building One, Building Two and Building Three will be demolished and be reconstructed as a part of this project. This service road currently provides emergency equipment access for the Fire Department to those facilities and is the service road for deliveries. It is critical that access is maintained at all times.
  - 2. As part of this project, a Temporary Service Road shall be constructed as shown on the Drawings. Complete the Temporary Service Road prior to closure of the Existing Service road, and not later than the time stipulated in this Section.
- C. Chilled Water Service to Building One:
  - 1. Complete and commission chilled water service to Building One not later than July 1, 2005.
- D. Sequencing Requirements:
  - 1. Sequence construction to protect sensitive building equipment and finishes in accordance with the manufacturer's instructions. Requirements of this type include, but are not limited to the following:
    - a. Install resilient and wood flooring after all other finishing operations, including overhead trades, are completed.
    - b. To minimize problems related to subfloor moisture, the areas to receive flooring shall be cleaned and fully enclosed and the building air conditioning system shall be in operation for several weeks prior to installing resilient and wood flooring.
  - 2. Established Dimensions: Where field measurements for fabricated components such as handrails and railings cannot be made without delaying the Work, establish dimensions and proceed with fabricating without field measurements. Coordinate construction to ensure that actual dimensions correspond to establish dimensions.

**END EXAMPLE**



**1.05 USE OF PREMISES AND WORK RESTRICTIONS**

A. General: Contractor shall have full use of construction zone for construction operations, including use of project site, during construction period. Contractor’s use of premises is limited only by State’s right to perform work or to retain other Contractors on portions of the project site.

B. Contractor’s use of premises is restricted as follows:

298 RTI BUILDING PROJECTED AVAILABILITY																																																				
BUILDING/WEEK	MONTH				Jan-24				Feb-24				Mar-24				Apr-24				May-24				Jun-24				Jul-24				Aug-24				Sep-24				Oct-24				Nov-24				Dec-24			
	Oct-23	Nov-23	Dec-23		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
711 ADMIN																																																				
711 CLASSROOMS																																																				
712 DFAC																																																				
713 AUDITORIUM																																																				
714 A BILLETING																																																				

- a. Occupants will need to use the facilities for full-time staff and during drill weekends.
  - b. Access to the vault and weapons storage areas within the Administration building will be required.
  - c. Night, weekend, and overtime work is allowed unless restricted elsewhere.
2. Site Access and Parking:
- a. Parking: Parking for the Contractor’s employees (or Subcontractors) will be limited to the available areas within the designated Project Contract Limits or in areas designated by the Contracting Officer. Do not use parking stalls in regularly designated parking zones within the Facility grounds. Unauthorized vehicles parked in marked stalls and in any area outside of the designated project construction site will be subject to towing at the Contractor’s expense.
  - b. Maintain access to the Loading area through Project Contract Limits.
3. Sanitation:
- a. Use of facility toilet facilities will be as directed by the Contracting Officer. Facilities shall be kept clean. Abuse of this condition may result in the Contractor providing their own toilet facilities at no additional cost to the State.
4. Noise and Dust Control:
- a. In adjacent locations surrounding the project site, noise, dust and other disrupting activities, resulting from construction operations, are detrimental to the conduct of the Facility activities. Therefore, Contractor shall monitor its construction activities. Exercise precaution when using equipment and machinery to keep the noise and dust levels to a minimum.
  - b. To reduce loud disruptive noise levels, ensure mufflers and other devices are provided on equipment, internal combustion engines and compressors.

- c. Schedule construction activities that create excessive noise and dust problems, such as concrete coring, drilling, hammering, trenching, and demolition, for the weekends, holidays or non-business hours. Overtime costs for the Contractor's employees and work force are the Contractor's responsibility.
  - d. The Contracting Officer will require any construction activity that produces excessiveness of noise and dust to be performed during non-business hours. The Contracting Officer shall make the final determination. Overtime costs for the Contractor's employees and work force are the Contractor's responsibility.
5. Other Conditions:
- a. Arrange for construction debris and trash to be removed from project site weekly.
  - b. Operate machinery and equipment with discretion and with minimum interference to driveways and walkways. Do not leave machinery and equipment unattended on roads and driveways.
  - c. Store materials in the areas as designated by the Contracting Officer. Locate construction equipment, machinery, equipment and supplies within the Project Contract Limits.
  - d. Keep access roads and campus roads, to the project site free of dirt and debris. Provide, erect and maintain lights, barriers, signs, etc. when working on facility roads, driveways and walkways to protect pedestrians and moped/bicycle riders. Obey facility traffic and safety regulations.
  - e. All smoking and vaping activities within construction limits on all DAGS Public Works construction sites, indoor or outdoor, are prohibited. Violations will be considered a contractual noncompliance by the general contractor.
- C. Security Provisions: When work is performed outside the normal operating hours of the Department (or Users operations), only a single entry to the building will be permitted and a Special Duty Officer (Deputy Sheriff) shall be stationed at this entrance throughout the period that it is open. Contact and arrange with the Department of Public Safety, Sheriff's Division, Special Duty Assignment Officer by emailing all requests to: [kurtlend.d.enos@hawaii.gov](mailto:kurtlend.d.enos@hawaii.gov), and calling (808) 285-6001 (mobile cell) ; and the Sheriff's office on the island or region on Oahu where the project is to be constructed to provide the security personnel. Make arrangements at least 48 hours before security personnel are required. Special Duty Officer charges are \$45.00 per hour or fraction thereof (minimum of quarter hour increments), for a minimum of 4 hours. If the situation requires more Sheriffs, each additional Sheriff will be paid at the same hourly rate. A Sergeant at an hourly rate of \$50.00 will be required for every four Sheriffs and a Lieutenant at an hourly rate of \$55.00 will be required for every three Sergeants. If the Sheriff's office receives less than 12 hours notice for cancellation of scheduled security services, a minimum of four hours per Sheriff will be assessed to the requester. Pay for State Security Guard's cost as part of the contract. Hourly rates shown above were as of June 16, 2022. No additional

compensation will be given for any increase in these hourly rates up to 15%. Payment shall be made directly to the Special Duty Officer within 5 days of receipt after the Officer fills out a W-9 form on the jobsite. Contact the Sheriff's Office under the local jurisdiction of the project building in addition to contacting the Special Duty Assignment Officer as follows:

- (1) Circuit Court: (808) 539-4599
- (2) Capitol District: (808) 586-1352
- (3) Hawaii District: (808) 933-8833
- (4) Kauai District: (808) 482-2470
- (5) Maui District: (808) 244-2900

Note that the Sheriff's Offices do not possess keys for access to the building such that arrangements must be made with DAGS Central Services Division Public Building Management Services Branch (808) 831-6733 and/or the building Owner to provide keys or the means for access to the building after normal working hours.

#### **1.06 WORK UNDER OTHER CONTRACTS**

- A. Separate Contract: The State may execute a separate contract for certain construction at the project site that was not known at the time Offers were submitted.
- B. Cooperate fully with separate Contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

#### **1.07 FUTURE WORK**

- A. It is not anticipated the State will award a future contract that depends on the Work under this contract.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

**3.01 PROJECT SCHEDULE** is presented for information and planning purposes. Dates and activities are subject to adjustments.

<b>NO</b>	<b>EVENT OR DESCRIPTION</b>	<b>REFERENCE OR DATE</b>
1	Pre-Bid Meeting and Site Visit	Notice to Bidders
2	Clarifications or Questions Due	14 days before Offers are opened
3	Bid Opening	Notice to Bidders
4	Project Start Date	15 NOV 2023
5	Jobsite Start Date	N/A
6	Phase 1 Completion Date	Section 01100
7	Project Completion Date	14 MAY 2025

END OF SECTION

## **SECTION 01210 - ALLOWANCES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Certain materials, equipment, and services are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.
  - 2. Testing and inspecting allowances.
- C. Related Sections include the following:
  - 1. General Conditions - Article 4 SCOPE OF WORK for procedures for submitting and handling Change Orders.

#### **1.02 SELECTION AND PURCHASE**

- A. At the earliest practical date after award of the Contract, advise the Contracting Officer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. Purchase products and systems selected by the Contracting Officer from the designated supplier.

#### **1.03 SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

#### **1.04 LUMP SUM ALLOWANCES**

- A. Use the lump sum allowance only as directed by the Contracting Officer for purpose scheduled in Part 3 below, and only by Change Orders that indicate amounts to be charged to the allowance.
  - 1. Lump sum allowances to cover lump sum payments to another party shall not include Contractor's overhead, profit, and related costs. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs. These shall be included in the Total Lump Sum Bid Price.
  - 2. Contractor's overhead, profit, and related costs for products and equipment ordered by State under the lump sum allowance are included in the allowance and are not part of the Total Lump Sum Bid Price. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
  - 3. At Project closeout, credit unused amounts remaining in the lump sum allowance to State by Change Order.

### **1.05 TESTING AND INSPECTING ALLOWANCES**

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure.
- C. Costs of services not required by the Contract Documents are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to the Department by Change Order.

### **1.06 UNUSED MATERIALS**

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to the State, after installation has been completed and accepted.
  - 1. If requested by the Contracting Officer, prepare unused material for storage by State when it is not economically practical to return the material for credit. If directed by the Contracting Officer, deliver unused material to State's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

## **PART 2 - PRODUCTS (Not Used)**

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

### **3.02 PREPARATION**

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION

## **SECTION 01230 - ALTERNATES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for alternates.
- B. The description of alternates is not intended to give a detailed description of all additional or deductive work required by the alternate item(s), as only the principal features of such additional or deductive work are listed.
- C. Should any one or all of the alternates become a part of the contract, the cost of all additional or deductive work required by the alternate item(s), even though not specifically mentioned herein, are included in the lump sum bid price.

#### **1.02 DEFINITIONS**

- A. Alternate: An amount proposed by Bidders (Offerors) and stated on the Bid Form for certain work defined herein that may be added to or deducted from the Total Lump Sum Bid Price amount if State decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Total Lump Sum Bid Price.

#### **1.03 PROCEDURES**

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into the Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

### **PART 2 - PRODUCTS (Not Used)**

END OF SECTION

## **SECTION 01270 - VARIABLE QUANTITIES UNIT PRICES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for unit prices.

#### **1.02 DEFINITIONS**

- A. Unit price is an amount proposed by the Bidder (or Offeror), stated on the Bid Form, as a price per unit of measurement for materials or services included in the Total Lump Sum Bid Price.

#### **1.03 RELATED DOCUMENTS**

- A. Variations in estimated quantities are governed by GENERAL CONDITIONS Section VARIATIONS IN ESTIMATED QUANTITIES.
- B. Measurement and payment for unit price items are governed by the General Conditions.

#### **1.04 PROCEDURES**

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, coordination overhead, and profit.
- B. List of Unit Prices: A list of unit prices is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.
  - 1. The description of Variable Quantities Unit Price items is not intended to give a detailed description of all work required, as only principal features of such work are listed.
  - 2. Detailed descriptions are given in the appropriate Specification Sections or Drawings named in the general description below.
- C. Include Variable Quantities Unit Price costs on the Bid form.
- D. All computations of the Variable Quantities Unit Prices shall use the unit prices noted in the Bid Form. Measurements will be to the nearest estimated unit quantity. Payment will be made for quantities actually installed at the applicable price, measured by the Offeror, concurred by the Contracting Officer, and acceptably completed.
- E. The Variable Quantities Unit Prices are estimated quantities. Where the quantity of a pay item vary more than 15 percent above or below the estimated quantity stated in the contract, an adjustment in the contract price may be made upon demand by either the State or Contractor. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity.



- F. Do not proceed with work exceeding the estimated quantities written in the Bid Form until receipt of written approval by the Contracting Officer.

**PART 2 - PRODUCTS (Not Used)**

END OF SECTION

## **SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Project meetings.

#### **1.02 PERFORMANCE AND COORDINATION**

- A. Contractor is in charge of the Work within the Project Contract Limits, and shall direct and schedule the Work. Include general supervision, management and control of the Work of this project, in addition to other areas more specifically noted throughout the Specifications. Final responsibility for performance, interface, and completion of the Work and the Project is the Contractor's.
- B. The Contractor is responsible for jobsite Administration. Provide a competent superintendent on the job and provide an adequate staff to execute the Work. In addition, all workers shall dress appropriately and conduct themselves properly at all times. Loud abusive behavior, sexual harassment and misconduct will not be tolerated. Workers found in violation of the above shall be removed from the job site as directed by the Contracting Officer.
- C. The State will hold the Contractor liable for all the acts of Subcontractors and shall deal only with the Prime Contractor in matters pertaining to other trades employed on the job.
- D. Coordination: Provide project interface and coordination to properly and accurately bring together the several parts, components, systems, and assemblies as required to complete the Work pursuant to the GENERAL CONDITIONS and SPECIAL CONDITIONS.
  - 1. Provide interface and coordination of all trades, crafts and subcontracts. Ensure and make correct and accurate connections of abutting, adjoining, overlapping, and related work. Provide anchors, fasteners, accessories, appurtenances, and incidental items needed to complete the Work, fully, and correctly in accordance with the Contract Documents.
  - 2. Provide additional structural components, bracing, blocking, miscellaneous metal, backing, anchors, fasteners, and installation accessories required to properly anchor, fasten, or attach material, equipment, hardware, systems and assemblies to the structure.
  - 3. Provide excavation, backfilling, trenching and drilling for trades to install their work.

4. Provide concrete foundations, pads, supports, bases, and grouting for trades as needed to install their work.
5. Provide caulking, sealing, and flashing as required to waterproof the building complete and as required to insulate the building thermally and acoustically. Include sealing, flashing, and related work as required to prevent moisture intrusion, air infiltration, and light leakage.
6. Equipment, appliances, fixtures, and systems requiring plumbing and mechanical services, rough-in, and connections, or other utilities and services shall be provided with such services, rough-in, and final connections.
7. Equipment, appliances, fixtures, hardware, and systems requiring electrical services shall be provided with such electrical services, including outlets, switches, overload protection, interlocks, panelboard space, disconnects, circuit breakers, and connections.
8. Materials, equipment, component parts, accessories, incidental items, connections, and services required to complete the Work which are not provided by Subcontractors shall be provided by the Contractor.
9. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

### **1.03 COOPERATION WITH OTHER CONTRACTORS**

- A. The State reserves the right at any time to contract for or otherwise perform other or additional work within the Project Contract Limits. The Contractor of this project shall to the extent ordered by the Contracting Officer, conduct its work so as not to interfere with or hinder the progress or completion of the work performed by the State or other Contractors.

### **1.04 COORDINATION WITH OTHER PRIME CONTRACTORS**

- A. Multiple prime Contractors performing work under separate agreements with the State may be present near the project location, adjacent to and abutting the Project Contract Limits. This Contractor shall coordinate activities, sequence of work, protective barriers and any and all areas of work interfacing with other Prime Contractor's work. Contractor shall provide a continuity of finishes, walks, landscape, etc. at abutting Contract Limits so no additional work will be required. Any damage to other Prime Contractor's Work committed by this Contractor (or its Subcontractor) shall be repaired promptly at no additional cost to the State.
- B. Coordinate Subcontractors and keep them informed of any work from the other Projects that may affect the site or the Subcontractor's work. If the Contractor has any questions regarding its coordination responsibilities or needs clarification as to the impact in scheduling of its work and the work of other projects, this Contractor shall notify the Contracting Officer in writing.

- C. Subject to approval by the Contracting Officer, this Contractor shall amend and schedule its work and operations to minimize disruptions to the work and operations of other projects.
  - 1. Relocate or remove and replace temporary barriers, fencing supports or bracing to allow work by others to proceed unimpeded. Do not remove required barriers supporting work until specified time or as approved by the Contracting Officer. This does not relieve the Contractor of the responsibility of proper coordination of the work. If directed by the Contracting Officer, leave in place any temporary barriers.
  - 2. Coordinate work that abuts or overlaps work of the other projects with the Contracting Officer and other Prime Contractors to mutual agreement so that work is 100 percent complete with continuity of all materials, systems and finishes.
  - 3. When directed by the Contracting Officer, provide access into the construction zone to allow the other project's Contractor(s) to perform their Work and work that must be interfaced.
  - 4. Contractor shall adjust and coordinate its Work and operations as required by the other projects as part of the Work of this contract without additional cost or delay to the State.
  - 5. When directed by the Contracting Officer provide a combined Contractor's construction schedule.
- D. Other Contracts: If known, they are listed in SECTION 01100 - PROJECT REQUIREMENTS.

#### **1.05 SUBMITTALS**

- A. Photo Documentation: Prior to the start of jobsite work, the Contractor shall photo document the existing conditions at the site and file with the Contracting Officer one complete set of documents.

#### **1.06 PROJECT MEETINGS**

- A. General: Schedule and conduct meetings and conferences as directed by the Contracting Officer at the Contracting Officer's field office, unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Contracting Officer of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Contractor record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Contracting Officer, within 7 days of the meeting.

- B. Preconstruction Conference: Contracting Officer shall schedule a preconstruction conference before the start of construction, at a time convenient to the Contracting Officer, but no later than 7 days before the Project start date or jobsite start date whichever is later. Conference will be held at the Project site or another convenient location. The Contracting Officer shall conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Contracting Officer, and design consultants; Facility Users; Contractor and its superintendent; major Subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and coordination.
    - d. Designation of responsible personnel.
    - e. Use of the premises.
    - f. Responsibility for temporary facilities and controls.
    - g. Parking availability.
    - h. Office, work, and storage areas.
    - i. Equipment deliveries and priorities.
    - j. First aid.
    - k. Security.
    - l. LEED Requirements (for LEED Projects only) such as:
      1. Construction Waste Management and recycling
      2. Commissioning
      3. Recordkeeping, submittals, etc.
    - m. Progress cleaning.
    - n. Working hours.

- C. Progress Meetings: Conduct progress meetings at monthly or other intervals as determined by the Contracting Officer. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to Contracting Officer and Design Consultant, each Contractor, Subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - b. Review present and future needs of each entity present, including the following:
      - 1) Outstanding Requests for information (clarification).
      - 2) Interface requirements.
      - 3) Sequence of operations.
      - 4) Status of outstanding submittals.
      - 5) Deliveries.
      - 6) Off-site fabrication.
      - 7) Access.
      - 8) Site utilization.
      - 9) Temporary facilities and controls.
      - 10) Work hours.
      - 11) Hazards and risks.
      - 12) Progress cleaning.
      - 13) Quality and work standards.
      - 14) Force Account work.
      - 15) Change Orders and Change Proposals.

- 16) Documentation of information for payment requests.
- c. Corrective Action Plan: Contractor shall provide a plan of corrective action for any item which is delayed or expected to be delayed, then that item impacts the contractual dates.
3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
  - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION

## **SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Contractor's Construction Schedule.
  - 2. Submittals Schedule.
  - 3. Schedule of Prices.
  - 4. Payment Application.
- B. Related Sections include the following:
  - 1. SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION for preparing a combined Contractor's Construction Schedule.
  - 2. SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT for use of the StateWebCM for electronic submittals.
  - 3. SECTION 01330 - SUBMITTAL PROCEDURES for submitting schedules and reports.

#### **1.02 DEFINITIONS**

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path and control the total length of the project. They must start and finish on the planned early start and finish times.
  - 2. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of project.
- C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.



1. Float time is not for the exclusive use or benefit of either the Department or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
  3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Schedule of Prices: A statement furnished by Contractor allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Payment Applications.

### **1.03 SUBMITTALS**

- A. Required Submittals: Submit 8 sets of the list of the required submittals, by Specification Section, within 15 days after award of the contract or upon earlier written instructions from the Contracting Officer. A general listing is provided under SECTION 01330 - SUBMITTAL PROCEDURES.
1. The listing shall indicate and include the following:
    - a. The number of copies required for submittal.
    - b. Planned submittal date.
    - c. Approval date required by the Contractor.
    - d. A space where the "date of submittal" can be inserted.
    - e. A space where the "date of approval" can be inserted.
    - f. A space where an "action code" can be inserted.
- B. Construction Schedule: Submit 7 sets of the Construction Schedule for review within 15 days after the award of the contract or upon earlier written instructions from the Contracting Officer.
- C. Schedule of Prices: Submit 3 sets of the Schedule of Prices integrated with the Construction Schedule for review within 15 days after the award of the contract or upon earlier written instructions from the Contracting Officer.
1. Use the Department's forms for Payment applications.
- D. Payment Application: Submit the payment application at earliest possible date and no sooner than the last day of the month after all payroll affidavits, updated submittal registers, and schedules have been submitted.

### **1.04 COORDINATION**

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Contractors.
- B. Construction Schedule: Coordinate Contractor's Construction Schedule with the Schedule of Prices, Submittals Schedule, loaded monthly event activity, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- C. Schedule of Prices: Coordinate preparation of the schedule with preparation of Contractor's Construction Schedule.
1. Correlate line items in the Schedule of Prices with other required administrative forms and schedules, including the following:
    - a. The Department's Payment Application form and the Construction Progress Report continuation sheet for the event cost estimate per time period.
    - b. Submittals Schedule.

## **PART 2 - PRODUCTS**

### **2.01 SUBMITTALS SCHEDULE**

- A. Comply with the GENERAL CONDITIONS "SHOP DRAWINGS AND OTHER SUBMITTALS" Article. Furnish required submittals specified in this Section and in the Technical Sections. Submittals include one or more of the following: shop drawings, color samples, material samples, technical data, material safety data information, schedules of materials, schedules of operations, guarantees, certifications, operating and maintenance manuals, and field posted as-built drawings.
- B. Preparation: Furnish a schedule of submittals per Contracting Officer.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Prices, and Contractor's Construction Schedule.
  2. The schedule shall accommodate a minimum of 21 calendar days for the State's review, as applicable for the Island the project is located.
  3. Prepare and submit an updated list to the Contracting Officer at monthly intervals or as directed by the Contracting Officer. The listing shall reflect all approvals received since the last update.

### **2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE - GANTT CHART METHOD**

- A. The construction schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The progress chart shall indicate the order in which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment).
- B. Upon completion of the Contracting Officer's review, the Contractor shall amend the schedule as necessary to reflect the comments. If necessary, the Contractor shall participate in a meeting with the Contracting Officer to discuss the proposed schedule and changes required. Submit the revised schedule for review within 7 calendar days after receipt of the comments.
- C. Use the reviewed schedule for planning, organizing and directing the work, for reporting progress, and for requesting payment for the work completed. Unless

providing an update, do not make changes to the reviewed schedule without the Contracting Officer's approval.

- D. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve progress, including those that may be required by the Contracting Officer, without additional cost to the State. The Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, or amount of construction plant, and to submit for approval any supplemental schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.
- E. Update the construction schedule at monthly intervals or when directed by the Contracting Officer to revise the schedule. Reflect any changes occurring since the last update with each invoice for progress payment. Submit copies of the purchase orders and confirmation of the delivery dates as directed. The Contracting Officer's review of the updated schedule is to check that the updated schedule does not alter the construction performance period unless the period was revised through a change order or contract modification.
- F. At Contractor's option a PERT chart may be used.

### **2.03 SCHEDULE OF PRICES**

- A. Furnish a schedule of prices per Contracting Officer.
- B. Provide a breakdown of the Contract Sum in enough detail to facilitate developing and the continued evaluation of Payment Applications. Provide several line items for principal subcontract amounts, or for materials or equipment purchased or fabricated and stored, but not yet installed, where appropriate. Round amounts to nearest whole dollar; total shall equal the Contract Price.
- C. Each item in the Schedule of Prices and Payment Application shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

### **2.04 PAYMENT APPLICATION**

- A. Use the Schedule of Prices as the Monthly Construction Progress Report. Each Payment Application shall be consistent with previous applications and payments. The Contracting Officer shall determine the appropriateness of each payment application item.
- B. Payment Application Times: The date for each progress payment is the last day of each month. The period covered by each Payment Application starts on the first day of the month or following the end of the preceding period and ends on the last day of the month.
- C. Updating: Update the schedule of prices listed in the Payment application when Change Orders or Contract Modifications result in a change in the Contract Price.

- D. Provide a separate line item for each part of the Work where Payment Application may include materials or equipment purchased or fabricated and stored, but not yet installed.
- E. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
- F. Provide separate line items for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
- G. Payment Application Forms: Use and submit copies of the Payment Application and Construction Progress forms provided by Department. Forms are available at the Department's Public Works Division office or District office. Furnish 7 copies.
- H. Application Preparation: Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of the Contractor.
  - 1. Entries shall match data on the Schedule of Prices and Contractor's Construction Schedule. Use updated schedules if revisions were made. Include amounts of Change Orders and Contract Modifications issued before last day of construction period covered by application.
- I. No payment will be made until the following are submitted each month:
  - 1. Monthly Estimate, 7 copies.
  - 2. Monthly Progress Report, 7 copies.
  - 3. Statement of Contract Time, 7 copies.
  - 4. Updated Submittal Register, 1 copy.
  - 5. Updated Progress Schedule, 1 copy.
  - 6. All Daily Reports, 1 copy.
  - 7. All Payroll Affidavits for work done, 1 copy.
- J. Retainage: The Department will withhold retainage in compliance with the GENERAL CONDITIONS.
- K. Transmittal: Submit the signed original and 6 copies of each Payment Application for processing.

## **2.05 GENERAL CONTRACTOR AND SUBCONTRACTORS DAILY PROGRESS REPORTS**

- A. The General Contractor is responsible for submitting the General Contractor and Subcontractor Daily Progress Reports (Daily Reports) for the General Contractor, all subcontractors, and any lower-tier subcontractors.
- B. The form of the Daily Reports shall be as directed by the Contracting Officer. A separate report shall be made and submitted for the General Contractor (each calendar day) and each subcontractor (each day worked). The report shall include the following information for each employer: Name of General Contractor or Subcontractor, Report Number, Contract Day (consecutive calendar day from Notice to Proceed (NTP) Date), Date worked, work location and description, number of workers, trade/labor classification, and work hours. For General

Contractor, only the Contract Day is required because the Report Number will be the same number.

- C. The Daily Reports shall be prepared from the project NTP Date. Daily Reports shall continue to be prepared and submitted up to the Project Acceptance Date. After the Project Acceptance Date, Daily Reports will be submitted for days worked only, and continue to date of Contract Completion Notice. Running Contract Day will stop at Project Acceptance Date.
- D. Submit/upload copies of the previous day's reports to the appropriate online folder(s) within the State's web based construction management system as directed by the Contracting Officer by 10:00 a.m. of the next working day.
- E. Daily Reports can be handwritten in the field, and shall be uploaded by the General Contractor to the State's web based construction management system. The reports shall use the following file naming convention:

CN R# CD# YYMMDD

CN: Company Name of General Contractor or Subcontractor (2 capital letters)

R#: Daily Report number (3 digits, used only by Subcontractor)

CD#: Contract Day (consecutive calendar day from NTP Date, 3 digits)

YYMMDD: Report Date in numerals (year, month, day, 6 digits)

Examples: HS 011 015 170314, for Honolulu Subcontractor, Inc.  
HG 015 170314, for Honolulu General Contractor, Inc.

- F. A sample Daily Progress Report Form can be found at the end of this Section.

### **PART 3 - EXECUTION (Not Used)**

END OF SECTION

STATE OF HAWAII, DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES DIVISION OF PUBLIC WORKS – CONSTRUCTION MANAGEMENT BRANCH <b>DAILY PROGRESS REPORT</b>	REPORT NO.:	001
	CONTRACT DAY:	001
	DATE:	03/14/2017

PROJECT:	Waimano Ridge		DAGS Job No.:
	Improvements to Buildings and Site		12-20-0000
Contractor:	Enter General Contractor or Subcontractor Name	State Engineer:	
Certified by:	Enter name of person certifying the report information	State Inspector:	
Weather:		Condition:	

WORK PERFORMED TODAY (by General Contractor or Subcontractor)			
Work location & description	Number (Workers)	Trade/Labor Classification	Hours

Observed defective work:

Observed corrected work:

Materials and equipment delivered today:

Testing done today:

Questions or problems:

Remarks:

## **SECTION 01322 - WEB BASED CONSTRUCTION MANAGEMENT**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

A. The State, Consultants, and Contractor shall utilize the DAGS web-based system, hereto referred to as StateWebCM for electronic submittal of all data and documents (unless specified otherwise by the Construction Management Branch) throughout the duration of the Contract. The use of a web-based collaborative system; such as Autodesk Buzzsaw, Constructware, Meridian Project Talk, Primavera P3e/c, etc. will be made available only to key Prime Contractor personnel and the Design Consultant. The joint use of this system is to facilitate; electronic exchange of information, key processes, and overall management of the contract. StateWebCM shall be the primary means of project information submission, communications and management between Contractor, Consultant and the State. When required by the Contracting Officer, paper documents will also be provided (i.e.; e.g. the signature of Contract Modifications and submission of Contract Claims). In the event of discrepancy between the electronic version and paper documents, the paper documents will govern.

B. Autodesk Buzzsaw, Constructware, Meridian Project Talk are trademarked items. Primavera Project Planner, P3e/c, etc. are registered trademarks of Primavera Systems, Inc. Microsoft, Internet Explorer, Outlook, Word, and Excel are registered trademarks of Microsoft Corporation in the U.S.A. Adobe and Acrobat are registered trademarks of Adobe Systems Incorporated.

#### **1.02 USER ACCESS LIMITATIONS**

- A. The Contracting Officer will control the Consultant and Contractor's access to StateWebCM by allowing access and assigning user profiles to accepted personnel. User profiles will define levels of access into the system; determine assigned function-based authorizations (determines what can be seen) and user privileges (determines what they can do). Sub-contractors and suppliers will not have direct access to StateWebCM. Entry of information exchanged and transferred between the Contractor and Design Consultant, sub-contractors and suppliers on StateWebCM shall be the responsibility of the Contractor.
1. Joint Ownership of Data: Data entered in a collaborative mode (entered with the intent to share as determined by permissions and workflows within the StateWebCM system) by the Contracting Officer, Consultant, and the Contractor will be jointly owned.

### **1.03 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING**

- A. Review comments made (or lack thereof) by the State or the Design Consultant on Contractor submitted documentation shall not relieve the Contractor from compliance with requirements of the contract documents. The Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the contract documents. State acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

### **1.04 SUBMITTALS**

- A. The following shall be submitted in accordance with SECTION 01330 - SUBMITTAL PROCEDURES:
  - 1. Pre-construction Submittals
  - 2. List of Contractor's key StateWebCM personnel.

### **1.05 INSTRUCTIONS ON USING THE STATEWEBCM**

- A. The Contractor shall receive StateWebCM user guides containing instructions on how to use the StateWebCM.

### **1.06 COMPUTER REQUIREMENTS**

- A. The Contractor shall use computer hardware and software that meets the requirements of the StateWebCM system as recommended by the system the State uses to access and utilize StateWebCM. As recommendations are modified by the used system, the Contractor will upgrade their system(s) to meet the recommendations or better. Upgrading of the Contractor's computer systems will not be justification for a cost or time modification to the Contract.

### **1.07 CONTRACTOR RESPONSIBILITY**

- A. The Contractor shall be responsible for the validity of their information placed in StateWebCM and for the abilities of their personnel. Accepted users shall be knowledgeable in the use of computers, including Internet Explorer, word processing programs such as Word, spreadsheet programs such as Excel, Project management programs such as Project, and Adobe Portable Document Format (PDF) document distribution program. The Contractor shall utilize the existing forms supplied by the Contracting Officer or located in StateWebCM or located on the State's website, <http://pwd.hawaii.gov/construction-management-branch/construction-administration-forms/>, to the maximum extent possible. After receiving StateWebCM user guides from the State, the Contractor is responsible for distributing the user guides to their personnel in the use of StateWebCM and the other programs indicated above as needed. All costs associated with the use of this system will be evenly distributed in the project overheads and spread across the duration of the contract; a separate added cost will not be allowed.
  - 1. User Access Administration: Provide a list of Contractor's key StateWebCM personnel for the Contracting Officer's acceptance. Notify the Contracting Officer immediately of any users that are to have access removed. Resubmit the personnel list whenever modified. User changes will take effect within one working day of accepting the requested change. The Contractor will be allocated 3 or as needed key personnel with access to StateWebCM. Access will include up to 2 key personnel from the Design Consultant. Access by any other stakeholder will be according to need or within public areas within the



StateWebCM project web page.

### **1.08 CONNECTICITY PROBLEMS**

- A. StateWebCM is a web-based environment and therefore subject to the inherent speed and connectivity issues of the internet service provider. The Design Consultant, and Contractor are responsible for their own connectivity to the internet. StateWebCM response time is dependent on all user's equipment, including processor speed, network interface equipment speed, internet service provider access speed, etc. and current traffic on the internet. The State will not be liable for any delays associated from the usage of StateWebCM including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information. Under no circumstances shall the usage of the StateWebCM be grounds for a time extension or cost adjustment to the contract.

## **PART 2 - PRODUCTS**

### **2.01 STATE WEBBCM SYSTEM**

- A. Web-based construction management system as provided by the State.

## **PART 3 - EXECUTION**

### **3.01 STATE WEBBCM UTILIZATION**

- A. The following shall be submitted utilizing the DAGS web-based system as directed by the Contracting Officer.
- B. Shop Drawings: Shop drawing and design data documents shall be submitted as PDF attachments to the StateWebCM submittal workflow process. All PDF shop drawing submittal documents shall have the Contractor's review and submittal stamp (including signatures) as specified in SECTION 01330 - SUBMITTAL PROCEDURES, the same as if submitted as hard copy. Generic digital samples of all transmittal sheets and stamps are available for all users. Examples of shop drawings include, but are not limited to:
  - 1. Standard manufacturer installation drawings for all trades, as required.
  - 2. Drawings prepared to illustrate portions of the work designed or developed by the Contractor.
  - 3. Steel fabrication, piece, and erection drawings.
- C. Product Data: Product catalog data and manufacturers instructions shall be submitted as PDF attachments to the StateWebCM submittal workflow process, except that color charts and similar color oriented pages shall be submitted as hard copy separate from and in addition to the PDF copy. Submittal shall indicate when hard copy color documents are submitted. All PDF product data submittal documents shall have the Contractors review and submittal stamp (including signatures) as specified in SECTION 01330 - SUBMITTAL PROCEDURES the same as if submitted as hard copy. Examples of product data include, but are not limited to:
  - 1. Manufacturer's printed literature.

2. Preprinted product specification data and installation instructions.
- D. Samples: Sample submittals shall be physically submitted as specified in SECTION 01330 - SUBMITTAL PROCEDURES. Contractor shall enter submittal data information into StateWebCM with a copy of the approved transmittal form(s) attached to the submittal. Examples of samples include, but are not limited to:
1. Product finishes and color selection samples.
  2. Product finishes and color verification samples.
  3. Finish/color boards.
  4. Physical samples of materials.
- E. Administrative Submittals: All correspondence and Preconstruction submittals shall be submitted on StateWebCM. Examples of administrative submittals include, but are not limited to:
1. Commencement Requirements.
  2. Digging permits and notices for excavation.
  3. List of Contractor personnel accessing StateWebCM.
  4. List of contact personnel.
  5. Notices for roadway interruption, work outside regular hours, and utility cutovers.
  6. Requests for Information (RFI).
  7. Schedules as specified and associated reports and updates. Each schedule submittal specified in SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION shall be submitted as a native backed-up file of the scheduling program being used. The schedule will also be posted as a PDF file in the format specified in SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION.
  8. Submittal Register: Use the submittal register data provided by SECTION 01330 - SUBMITTAL PROCEDURES of the specifications and other individual sections as needed. Contractor shall input data for dates as specified and upon acceptance of the register, load the register up to StateWebCM and update as required by the Contract documents or Contracting Officer.
  9. Plans for safety, demolition, environmental protection, and similar activities.
  10. Payroll affidavits.
  11. All reports such as daily activity, materials received, inspections, punch lists, and any testing or special observations by parties connected to the contract.

12. Other information as required and agreed on by all parties.
  13. Meeting minutes for Preconstruction Meeting, progress meetings, pre-installation meetings, etc.
  14. Any general correspondence submitted.
- F. Compliance Submittals: Test report, certificate, and manufacture field report submittals shall be submitted on StateWebCM as PDF attachments. Examples of compliance submittals include, but are not limited to:
1. Manufacturers documentation and certifications for quality of products and materials provided.
  2. Shop drawings.
  3. Quality Control certifications.
  4. Field test reports.
- G. Record and Closeout Submittals: Operation and maintenance data, test and balance data, equipment test data, and other closeout submittals shall be submitted on StateWebCM as PDF documents during the approval and review stage as specified in SECTION 01770 - CLOSEOUT PROCEDURES. Examples of record submittals include, but are not limited to:
1. Operation and Maintenance Manuals: Final documents shall be submitted as specified.
  2. As-built Drawings: Final documents shall be submitted as specified.
  3. Extra Materials, Spare Stock, etc.: Submittal forms shall indicate when actual materials are submitted.
- H. Exceptions: Documents with legal consequences, contract modifications, contract claims, security implications, and those required by other agencies may require an additional submittal as original hard copy with original signatures and seals. Hard copies of these documents shall be submitted as specified or as directed by the Contracting Officer.

END OF SECTION

## **SECTION 01330 - SUBMITTAL PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Comply with the GENERAL CONDITIONS "Shop Drawings and Other Submittals" section and "Material Samples" section.
- B. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- C. Related Sections include the following:
  - 1. SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
  - 2. SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT for use of the StateWebCM for electronic submittals.
  - 3. SECTION 01770 - CLOSEOUT PROCEDURES for submitting warranties, project record documents and operation and maintenance manuals.

#### **1.02 SUBMITTAL PROCEDURES**

- A. Coordinate Work and Submittals: Contractor shall certify the submittals were reviewed and coordinated.
- B. Submittal Certification: Provide in MS Word when submitting electronically. Contracting Officer will provide an electronic copy of the Submittal Certification. Provide a reproduction (or stamp) of the "Submittal Certification" and furnish the required information with all submittals. Include the certification on:
  - 1. The title sheet of each shop drawing, or on
  - 2. The cover sheet of submittals in 8-1/2 inch x 11-inch format, or on
  - 3. One face of a cardstock tag (minimum size 3-inch x 6-inch) tied to each sample. On the sample tag, identify the sample to ensure sample can be matched to the tag if accidentally separated. The opposite face of the tag will be used by the Contracting Officer to receive, review, log stamp and include comments.
- C. Variances: The Contractor shall request approval for a variance. Clearly note any proposed deviations or variances from the Specifications, Drawings, and other Contract Documents on the submittal and also in a separately written letter accompanying the submittal.

D. Submittal Certification Form (stamp or digital)

CONTRACTOR'S NAME: \_\_\_\_\_  
PROJECT: \_\_\_\_\_  
DAGS JOB NO: \_\_\_\_\_

**As the General Contractor, we checked this submittal and we certify it is correct, complete, and in compliance with Contract Drawings and Specifications. All affected Contractors and suppliers are aware of, and will integrate this submittal into their own work.**

SUBMITTAL NUMBER \_\_\_\_\_ DATE RECEIVED \_\_\_\_\_  
REVISION NUMBER \_\_\_\_\_ DATE RECEIVED \_\_\_\_\_  
SPECIFICATION SECTION NUMBER /PARAGRAPH NUMBER \_\_\_\_\_  
DRAWING NUMBER \_\_\_\_\_  
SUBCONTRACTOR'S NAME \_\_\_\_\_  
SUPPLIER'S NAME \_\_\_\_\_  
MANUFACTURER'S NAME \_\_\_\_\_

**NOTE: DEVIATIONS FROM THE CONTRACT DOCUMENTS ARE PROPOSED AS FOLLOWS (Indicate "NONE" if there are no deviations)**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  

CERTIFIED BY	_____
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Note: Form can be combined with Design Consultant's Review stamp. This is available from the Contracting Officer.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION**

**3.01 SUBMITTAL REGISTER AND TRANSMITTAL FORM**

- A. Contractor shall use submittal register and transmittal forms as directed by the Contracting Officer.
- B. The listing of required submittals within this Section is provided for the Contractor's convenience. Review the specification technical sections and prepare a comprehensive listing of required submittals. Furnish submittals to the Contracting Officer for review.
- C. Contractor shall separate each submittal item by listing all submittals in the following groups with the items in each group sequentially listed by the specification section they come from:
  - 1. Administrative
  - 2. Data
  - 3. Tests
  - 4. Closing

- D. Contractor shall separate all different types of data as separate line items all with the column requirements.
- E. Contractor shall send monthly updates and reconciled copies electronically to the Contracting Officer and the Design Consultant in MS Word or MS Excel or other format as accepted by the Contracting Officer.

Section No. – Title	Shop Drawings & Diagrams	Samples	Certificates (Material, Treatment, Applicator, etc.)	Product Data, Manufacturer's Technical Literature	MSDS Sheets	Calculations	Reports (Testing, Maintenance, Inspection, etc.)	Test Plan	O & M Manual	Equipment or Fixture Listing	Schedules (Project Installation)	Maintenance Service Contract	Field Posted As-Built Drawings	Others	Guaranty or Warranty	Manufacturer's Guaranty or Warranty (Greater than one year)
01210 – Allowances														■		
01310 – Project Management and Coordination											■			■		
01320 – Construction Progress Documentation											■			■		
01322 – Web Based Construction Management														■		
01330 – Submittal Procedures			■											■		
01500 – Temporary Facilities and Controls							■							■		
01770 – Closeout Procedures	■								■				■	■	■	
02410 – Selective Demolition											■			■		
03300 – Concrete	■		■	■			■									
07920 – Joint Sealant				■	■											

Section No. - Title	Shop Drawings & Diagrams	Samples	Certificates (Material, Treatment, Applicator, etc.)	Product Data, Manufacturer' s Technical Literature	MSDS Sheets	Calculations	Reports (Testing, Maintenance, Inspection, etc.)	Test Plan	O & M Manual	Equipment or Fixture Listing	Schedules (Project Installation)	Maintenance Service Contract	Field Posted As-Built Drawings	Others	Guaranty or Warranty	Manufacturer' s Guaranty or Warranty (Greater than one year)
09250 – Gypsum Board	■	■		■												
09511 – Acoustical Panel Ceiling	■	■		■											■	■
09720 – Wall/ Ceiling Coverings		■		■				■	■					■		
09901 - Painting		■	■	■	■				■		■			■		
21 13 13 – Wet Pipe Fire Sprinkler System	■		■	■		■	■	■	■			■	■		■	■

Section No. - Title	Shop Drawings & Diagrams	Samples	Certificates (Material, Treatment, Applicator, etc.)	Product Data, Manufacturer' s Technical Literature	MSDS Sheets	Calculations	Reports (Testing, Maintenance, Inspection, etc.)	Test Plan	O & M Manual	Equipment or Fixture Listing	Schedules (Project Installation)	Maintenance Service Contract	Field Posted As-Built Drawings	Others	Guaranty or Warranty	Manufacturer' s Guaranty or Warranty (Greater than one year)

END OF SECTION



## **SECTION 01400 - QUALITY REQUIREMENTS**

### **PART 1 – GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and for Contractor's Quality Control CQC Program, responsibilities and duties.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements of this section or by the Department or authorities having jurisdiction, do not limit the Contractor's responsibility to provide quality-control services.
- C. Related Sections include the following:
  - 1. Section 01210 "Allowances" for testing and inspecting allowances.
- D. Contractor's Quality Control Program, consisting of a Quality Control Plan and related documents are required to be in place prior to the start of onsite construction.

#### **1.02 DEFINITIONS**

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Contracting Officer.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

#### **1.04 SUBMITTALS**

- A. Qualification Data: For QC Manager (alternate QC Manager), inspection and testing agencies, furnish evidence to demonstrate their capabilities and experience. Include proof of qualifications in the form of education, certifications, and license. For the testing agencies, include a recent report on the inspection of the testing agency by a recognized authority.

1. The Contracting Officer may disapprove any QC Manager (alternate QC Manager), inspection or testing agency or individual employed by the agency when the Contracting Officer determines it is in the best interest of the State. The Contractor is not entitled to any claim or cost increase or time extension due to the Contracting Officer's disapproval of an agency or individual.
- B. Reports: Prepare and submit certified written reports that include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Ambient conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.
- C. Permits, Licenses, and Certificates: Submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
- D. Quality Control (QC) Plan: Submit a QC Plan within 30 calendar days after receipt of Notice of Award.
1. The QC Plan shall include a preliminary submittal of the list of definable features of work and the Quality Control Checklist that covers the first 90 days of construction.
  2. Submit the completed list of definable features of work and the Quality Control Checklist in conjunction with the completed Construction Schedule or CPM schedule.

- E. Any approval by the Department of the QC Plan is considered an “approved as noted, resubmittal required” and will be in effect only until the completed list of definable work features are received and approved. If the completed list of definable work features and completed Construction Schedule are not received within the time indicated, the QC Plan will be disapproved and all work will stop, except for work authorized in article 1.09 in the paragraph entitled “Preliminary Work Authorized Prior to Approval.”

#### **1.05 SCHEDULE FOR SUBMITTING INFORMATION AND REPORTS**

- A. Deliver the original and two copies each of the following to the Department:
  - 1. Contractor Quality Control Report (1 sheet) and Contractor Production Report (one sheet): By 10:00 AM the next working day after each day that work is performed.
  - 2. QC Specialist Reports: By 10:00 AM the next working day after each day that work is performed, attached to the Contractor Quality Control Report;
  - 3. Field Test Reports: Within two working days after the test is performed, attached to the Contractor Quality Control Report;
  - 4. Monthly Summary Report of Tests: 2 copies attached to the Contractor Quality Control Report;
  - 5. Testing Plan and Log: 2 copies, at the end of each month;
  - 6. Rework Items List: 2 copies, by the last working day of the month;
  - 7. Quality Control meeting minutes: 2 copies, within 2 working days after the meeting and;
  - 8. Quality Control Certifications: As required by the paragraph titled “Quality Control Certifications.

#### **1.06 QUALITY ASSURANCE**

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Professional Architect or Engineer Qualifications: A professional architect or engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing architect or engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

- D. Inspection and Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E-548, and that specializes in types of tests and inspections to be performed.

#### **1.07 QUALITY CONTROL**

- A. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
  - 1. Engage qualified inspection or testing agencies to perform quality-control services and implement the Quality Control Plan, unless services are indicated as the Department's responsibility.
  - 2. Notify Contracting Officer and the inspection or testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  - 3. Submit certified written reports of each quality-control service.
  - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Special Inspections:
  - 1. Refer to Specification 21 13 13, Wet Pipe Sprinkler System for fire sprinkler system testing and inspection criteria.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting and Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with the Department and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  - 1. Notify the Contracting Officer and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  - 2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  - 3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
  5. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field-curing of test samples.
  5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  6. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Approval of the QC Plan: Obtain approval of the QC plan prior to the start of construction. The Contracting Officer may require changes in the QC Plan and operations as necessary, including removal of personnel, to ensure the specified quality of work is achieved.

#### **1.08 QUALITY CONTROL MANAGER**

- A. Duties: Provide a Quality Control Manager at the work site to implement and manage the QC Program. In addition to implementing and managing the QC Program, the QC Manager may perform the duties of the Project Superintendent. The QC Manager is required to; attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform submittal review, ensure testing is performed and provide QC certifications and documentation required in this Contract. The QC Manager is responsible for managing and coordinating the QC specialists, Testing Laboratory personnel and any other inspection and testing personnel required by this Contract.

#### ***Technical Service Office.***

- B. Qualifications: An individual with a minimum of 10 years' experience as a superintendent, inspector, QC Manager, project manager, or construction

manager on similar size and type construction contracts which included the major trades that are part of this Contract. The individual must have experience in the areas of hazard identification and safety compliance. It is desirable that the QC Manager completed the course "Construction Quality Management for Contractors" offered by the Navy or the Army Corps of Engineers or other similar course.

- C. Approval: QC Manager shall be subject to the approval of the Contracting Officer. Unless the Contractor has a QC Manager on staff, the Contractor shall provide the names of at least three individuals, and shall rank the individuals based on the Contractor's preference to work with or hire. The Contracting Officer may approve all or any one of the individuals. If any individual is presently working for the Contractor as a QC Manager, the Contractor may choose to submit only one individual, and that individual is subject to approval.
  - 1. Furnish evidence showing the individual(s) meets the qualifications, experience, training and other criteria required by this section.

#### **1.09 QUALITY CONTROL PROGRAM REQUIREMENTS**

- A. Establish and maintain a Quality Control (QC) Program consisting of:
  - 1. Quality Control organization,
  - 2. QC Plan, and QC Plan meeting
  - 3. Testing,
  - 4. Completion inspections,
  - 5. Quality Control meetings, and Coordination and mutual understanding meeting
  - 6. Submittal review and approval, and
  - 7. Quality Control certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations, which comply with the requirements of this Contract.
- B. The QC Program shall cover on-site and off-site work and shall be keyed to the work sequence.
- C. No work or testing may be performed unless the Quality Control Manager is on the work site.
- D. Unless the QC Manager and Project Superintendent are the same individual, the QC Manager shall report to the Project Superintendent as the Project Superintendent will be held responsible for the quality of work on the job and with quality requirements specified in the contract. Besides the requirements of the General Conditions, the Project Superintendent is charged with the responsibility for the overall management of the project including quality and production.

- E. Preliminary Work Authorized Prior to Approval: The only work that is authorized to proceed prior to the approval of the QC Plan is mobilization of storage and office trailers, temporary utilities and surveying, unless otherwise directed by the Contracting Officer.
- F. Notification of Changes: Notify the Contracting Officer of any proposed QC Plan change, including changes in the Quality Control organization personnel. Send written notification a minimum of seven days prior to a proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

#### **1.10 QUALITY CONTROL ORGANIZATION**

- A. Quality Control Manager: Meet the qualifications and duties required by this section. 01400.
- B. Alternate QC Manager Duties and Qualification: Designate an alternate for the QC Manager at the work site to serve in the event of the designated QC Manager's absence. Limit the time the QC Manager is absent to a period not exceed a single duration of two consecutive weeks, and in aggregate not more than 45 days during a calendar year. The qualification requirements for the Alternate QC Manager shall be the same as for the QC Manager.
- C. Safety Specialist: Provide a Safety Specialist at the work site to perform safety management, surveillance, inspections, and safety enforcement for the contractor. The Safety Specialist shall be at the work site at all times whenever work or testing is being performed, shall conduct daily safety inspections and shall have no other duties other than safety management, inspections, and safety enforcement on this Contract.

#### **1.11 QUALITY CONTROL (QC) PLAN**

- A. Requirements: Provide a QC Plan covering both on-site and off-site work. Bind the Plan in a 3-ring binder with pages numbered sequentially, and provide an electronic version of the plan in MS Word (or PDF) format.
- B. Table of Contents (TOC): List and identify the major sections identified with tabs. Format the TOC in the order of the following paragraphs.
- C. QC Organization: A chart showing the Quality Control organizational structure.
- D. Names and Qualifications: In resume format, for each person in the Quality Control organization.
- E. Duties, Responsibility and Authority of QC Personnel: List duties, responsibilities and authorities of each person in the quality control organization.
- F. Outside Organizations: List outside organizations such as, architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.
- G. Appointment Letters: Signed by an officer of the firm appointing the Quality Control Manager and Alternate Quality Control Manager and stating that they are

responsible for implementing and managing the QC Program. Include in this letter the responsibility of the Quality Control Manager and Alternate Quality Control Manager and authority to stop work which is not in compliance with the contract. Also, provide letters from the Quality Control Manager to all other Quality Control specialists outlining their duties, authorities, and responsibilities.

- H. Submittal Procedures and Initial Submittal Register: Detail the procedures for reviewing, approving and managing submittals. Provide the name(s) of the person(s) in the Quality Control organization authorized to review and certify submittals prior to approval. Provide the initial submittal of the Submittal Register.
- I. Testing Laboratory Information: Include applicable testing laboratory information required by this Section.
- J. Testing Plan and Log: Include the tests required, referenced by the specification section and paragraph number requiring the test, the frequency, and the person responsible for each test.
- K. Procedures to Complete Rework Items: Detail the procedures to identify, record, track and complete rework items.
- L. Documentation Procedures: Establish documentation procedures, including proposed report formats.
- M. Definable Features of Work: List the definable features of work as a checklist. A definable feature of work (DFOW) is a task, which is separate and distinct from other tasks and requires separate quality control requirements. DFOW could be identified by different trades or disciplines or by an item or activity on the construction schedule. Although each specification section could be considered a DFOW there frequently are more than one DFOW under a particular section. Cross-reference the list to the Construction Schedule and the specification sections.
- N. Quality Control Checklists: For each definable feature of work, develop a list of quality control activities broken down by preparatory, initial and follow-up phases. Each list shall include a breakdown of quality checks that will be used when performing the quality control functions, inspections, and tests required by the contract. Develop Quality Control Checklists to obtain quality construction by planning ahead and identifying potential problems for each definable feature of work.
- O. Personnel Matrix: For each section of the specification, show the person(s) who reviews and approve submittals, and who performs and document the testing.



#### **1.12 QUALITY CONTROL (QC) PLAN MEETING**

- A. Prior to submission of the QC Plan, meet with the Department's representatives to discuss the QC Plan requirements of the Contract. The purpose of this meeting is to develop mutual understanding of the QC Plan requirements prior to plan development and submission.

#### **1.13 COORDINATION AND MUTUAL UNDERSTANDING MEETING**

- A. After submission of the QC Plan, and prior to the start of construction, meet with the Department's Representatives to present the QC Program. The purpose of this meeting is to develop a mutual understanding of the quality control details, including documentation, administration for on-site and off-site work, and coordination of the Contractor's management, production and quality control personnel. At the meeting, the Contractor will be required to explain in detail the quality control for each definable feature of work. As a minimum, the Contractor's personnel required to attend shall include an officer of the firm, the project manager, project superintendent, Quality Control Manager, Alternate Quality Control Manager, Consultant, and subcontractor representatives. Each subcontractor who will be assigned quality control responsibilities shall have a principal of the firm at the meeting. Minutes of the meeting will be prepared by the QC Manager and signed by the Contractor, *Consultant*, and the Department's Representative. The Contractor shall provide a copy of the signed minutes to all attendees. Repeat the coordination and mutual understanding meeting if a new QC Manager is appointed.

#### **1.14 QUALITY CONTROL MEETINGS**

- A. QC Manager shall conduct Quality Control (QC) Meetings at least once every two weeks at the work site with the Project Superintendent. Notify the Department's Representative at least 48 hours in advance of each meeting to allow their attendance at these meetings. As a minimum, accomplish the following at each meeting:
  1. Review the minutes of the previous meeting.
  2. Review the schedule and the status of work since the last meeting, including; work or testing accomplished, rework items identified and rework items completed.
  3. Review the status of submittals. Address reviewed and approved submittals and submittals required in the near future
  4. Review the work to be accomplished in the next three weeks and the documentation required including the status of off-site work or testing. Establish completion dates for rework items.
  5. Update the schedule showing planned and actual dates of the preparatory, initial and follow-up phases, including testing and any other inspection required by this contract.
  6. Discuss construction methods and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each definable feature of work.

7. Resolve quality control and production problems, including assisting in resolving Request for Information (RFI) issues.
8. Address items that may require revising the QC Plan such as changes in quality control organization personnel or changes in procedures.
9. Review health and safety plan. Discuss upcoming activities that create or disturb hazardous materials.

#### **1.15 PHASES OF CONTROL**

- A. Three Phases are used to ensure quality control measures are provided for each definable feature of work, which includes both on-site and off-site work. Notify the Engineer at least 4 days prior to each phase.
- B. Preparatory Phase – Includes a meeting conducted by the QC Manager and attended by the superintendent, and the foreman responsible for the definable feature. Document the results of the preparatory phase actions in the daily Contractor Quality Control Report and in the Quality Control Checklist. Perform the following prior to beginning work on each definable feature of work:
  1. Review the contract drawing and each paragraph of the applicable specification sections.
  2. Verify that shop drawings and submittals for materials and equipment are submitted and approved. Verify receipt of approved factory test results, when required.
  3. Review the testing plan. Ensure that the required quality control testing provisions are made.
  4. Examine the work area. Ensure that the required preliminary work is completed.
  5. Examine and ensure the required materials, equipment, and sample work conforms to the approved shop drawings and submitted data. Ensure that the materials and equipment are available at the jobsite.
  6. Discuss construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction. Plan ahead and identify potential problems for each definable feature of work.
  7. Review the safety plan and appropriate activity hazard analysis to ensure that applicable safety requirements are met, and that required Material Safety Data Sheets (MSDS) are submitted.
- C. Initial Phase – The initial phase starts when construction crews are ready to start work on a definable feature of work. Meet with the superintendent, and the foreman responsible for that definable feature of work. Observe the initial segment of the definable feature of work to ensure that the work complies with Contract requirements. Document the results of the initial phase in the daily

- Contractor Quality control Report and in the Quality Control Checklist. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Perform the following for each definable feature of work:
1. Establish the quality of workmanship required.
  2. Resolve conflicts.
  3. Ensure that testing is performed.
  4. Check work procedures for compliance with the Safety Plan and the appropriate activity hazard analysis to ensure that applicable safety requirements are met.
- D. Follow-Up Phase – For on-going work, perform the following activities daily, or more frequently if necessary, until the completion of each definable feature of work. Document the work in the daily Contractor Quality Control Report and in the Quality Control Checklist:
1. Ensure that the work is in compliance with Contract requirements.
  2. Maintain the quality of workmanship required.
  3. Ensure that testing is performed.
  4. Ensure that rework items are being corrected.
  5. Perform safety inspections.
- E. Conduct additional Preparatory and Initial Phases on the same definable features of work if the quality of on-going work is unacceptable, or if there are changes in the applicable quality control organization, or if work on a definable feature is resumed after substantial period of inactivity, or if other problems develop.
- F. For Off-Site Work – Notify the Engineer at least two weeks prior to the start of the preparatory and initial phases.

#### **1.16 TESTING**

- A. Perform sampling and testing required in this section and as otherwise required by these specification.
- B. Testing Laboratory Requirements:
1. Inspection of Testing Laboratories: Prior to approving a non-accredited laboratory, the Department may conduct an inspection of the proposed testing laboratory records and facilities. Records subject to inspection include; equipment inventory, equipment calibration dates and procedures, library of test procedures, audit and inspection reports by agencies conducting laboratory evaluations and certifications, testing and management personnel qualifications, test report forms, and the internal quality control procedures.

2. Capability Check: The Department may check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this contract.
3. Test Results:
  - a. Cite applicable contract requirements, tests or analytical procedures used.
  - b. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the Contracting Officer immediately.
  - c. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specifications and contract requirements. Indicate the applicable specification section.
  - d. The authorized testing laboratory representative shall sign and certify the test results and reports.
  - e. Furnish the signed reports, certifications, and other documentation to the Contracting Officer via the QC Manager.
4. Test Reports and Monthly Summary Report of Tests - The QC Manager shall furnish the signed reports, certifications and a monthly summary report of field tests. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month.

#### **1.17 COMPLETION INSPECTIONS**

- A. Pre-Final Inspection: Near completion of the Work or any increment Work, the QC Manager shall conduct an inspection to identify items, which do not conform to the contract requirements. Include any remaining items on the "Rework Items List" which were not corrected. The QC Manager shall make follow-on inspections to ascertain that all deficiencies have been corrected.
- B. Final Inspection: Comply with the General Conditions section titled "SUBSTANTIAL COMPLETION AND FINAL INSPECTION." Verify that the facility is substantially complete and ready for final inspection. The QC Manager, the superintendent or other primary contractor management personnel shall ensure that all deficient items are corrected prior to notifying the Department for a final inspection.

#### **1.18 DOCUMENTATION**

- A. Maintain current and complete records of on-site and off-site activities.
- B. A Contractor Production Report is required for each day that work is performed and shall be attached to the Contractor Quality Control Report prepared for the same day. Account for each calendar day throughout the life of the Contract. Use terminology consistent with the construction schedule to report the work. The Contractor Production Report is to be prepared, signed and dated by the project superintendent and shall contain the following information:
  1. Report date, report number, contractor's name, project title, DAGS job number, project location and superintendent present.

2. Weather conditions in the morning and in the afternoon including; maximum and minimum temperatures, durations and estimated rainfall, and prevailing wind directions and speed.
  3. Identify work performed by corresponding schedule activity number, post contract number, change order number, and other items.
  4. A list of Contractor and subcontractor personnel on the work site. Include their trades, work location, description of work performed, hours worked by trade, daily total work hours on work site, and total work hours from start of construction.
  5. A list of job safety actions taken and safety inspections conducted. Indicate that safety requirements have been met including the results, and address the following:
    - a. Was a job safety meeting held? If yes, attach a copy of the meeting minutes.
    - b. Were there any lost time accidents? If yes, attach a copy of the completed OSHA report and the Department's "Contractor Significant Incident Report".
    - c. Was any crane, trenching, scaffold, high voltage electrical, or high work done? If yes, attach a statement or checklist showing inspection(s) performed.
    - d. Were there hazardous material(s) or waste released into the environment? If yes, attach descriptions, accident reports, notifications required and made.
    - e. List safety actions taken today and safety inspections conducted.
  6. A list of equipment or material received each day that is incorporated into the job.
  7. A list of equipment and plant equipment on the work site including the number of hours used, idle and down for repair.
  8. Include a "remarks" section in this report. Address pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site.
- C. A Contractor Quality Control Report is required for each day that work is performed and for every seven consecutive calendar days of no-work period and on the last day of a no-work period. Account for each calendar day throughout the life of the Contract. Use terminology consistent with the construction schedule to report the work. The Contractor Quality Control Report is prepared, signed and dated by the QC Manager and shall contain the following information:
1. Identify the control phase and the definable feature of work.
  2. Results of the Preparatory Phase meetings held including the location of the definable feature of work and a list of personnel present at the meeting.

Indicate in the report that for this definable feature of work, the drawings and specifications have been reviewed, submittals approved, materials comply with approved submittals, materials are stored properly, preliminary work is done correctly, the testing plan was reviewed, work methods and schedule were discussed, and that safety and hazard analysis were addressed.

3. Results of the Initial Phase meetings held including the location of the definable feature of work and a list of personnel present at the meeting. Indicate in the report that for this definable feature of work the preliminary work was done correctly, samples were prepared and approved, the workmanship is satisfactory, test results are acceptable, work is in compliance with the Contract, work complies with safety requirements, and the required testing was performed including a list of who performed the tests.
  4. Results of the Follow-Up Phase inspections held including the location of the definable feature of work. Indicate in the report for this definable feature of work that the work complies with the Contract as approved in the Initial Phase, work complies with safety requirements, and that required testing was performed including a list of who performed the tests.
  5. Results of the Phases of Control for off-site work, if applicable, including action taken.
  6. List the rework items identified, but not corrected by close of the day's work.
  7. List the rework items corrected from the rework items list along with the corrective action taken.
  8. Include a "remarks" section in this report. Address pertinent information including directions received, quality control problem areas, deviations from the QC plan, construction deficiencies encountered, QC meetings held, acknowledgment that as-built drawings have been updated, corrective direction given by the QC organization and corrective action taken by the Contractor.
  9. Provide Contractor Quality Control Report certification.
- D. Quality Control Checklist: Maintain a Quality Control Checklist for each definable feature of work. Each control check should indicate whether or not the work performed complies with contract requirements. Work performed that does not comply with contract requirements shall be noted in the Rework Items List.
- F. Testing Plan and Log: As tests are performed, the QC Manager shall record on the "Testing Plan and Log" the date the test was conducted, the date the test results were forwarded to the Department remarks and acknowledgment that an accredited or approved testing laboratory was used. Attach a copy of the updated "Testing Plan and Log" to the last daily Contractor Quality Control Report of each month.

- G. Rework Items List: The QC Manager shall maintain a list of work that does not comply with the Contract, identifying what items need to be reworked, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected. There is no requirement to report rework item that is corrected the same day it is discovered. Attach a copy of the "Rework Items List" to the last daily Contractor Quality Control Report of each month. The Contractor shall be responsible for including on this list items needing rework including those identified by DAGS.
- H. Report Forms: Furnish the proposed forms to be used to the Contracting Officer for review and approval.
  - 1. Contractor Production Report and Contractor Quality Control Report, with separate continuation sheet. These forms may be combined.
  - 2. Testing Plan and Log.
  - 3. Rework Items List.

#### **1.19 RECORD (As-Builts) DRAWINGS**

- A. The QC Manager is required to ensure the record drawings and jobsite record sets are kept current on a daily basis in accordance with Section 01770 – Closeout Procedures.

#### **1.20 NOTIFICATION OF NON-COMPLIANCE**

- A. Contractor will be notified of any detected non-compliance items. Take immediate corrective action after receipt of such notice.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

#### **3.01 REPAIR AND PROTECTION**

- A. General: On completion testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

#### **3.02 DEPARTMENT'S AUTHORITY**

- A. Review and removal of Quality Control Personnel:

1. All Quality Control organization personnel are subject to review by Contracting Officer; and the Contracting Officer may interview any member of the Quality Control organization at any time in order to verify the submitted qualifications.
2. The Contracting Officer has the authority to have the QC Manager replaced at any time for cause. Justifications may include, but are not limited to: not being on site when QC Manager's duties are required, or wrongfully approving substandard and noncompliant work.
3. The Contractor is not entitled to any claim or cost increase or time extension due to the Contracting Officer's disapproval of an agency or individual.

END QUALITY REQUIREMENTS SECTION



## **SECTION 01770 - CLOSEOUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including the following:
  - 1. Project Record Documents.
  - 2. Operation and Maintenance Manuals.
  - 3. Warranties.
  - 4. Instruction for the State's personnel.
- B. Related documents include the following:
  - 1. SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT for use of the StateWebCM for electronic submittals.
  - 2. SECTION 01700 - EXECUTION REQUIREMENTS.

#### **1.02 SUBSTANTIAL COMPLETION**

- A. Preliminary Procedures: Before requesting a Final Inspection to determine Substantial Completion, complete the following items in addition to requirements of Article 7 of the GENERAL CONDITIONS.
  - 1. Advise the Contracting Officer of pending insurance changeover requirements.
  - 2. Submit specific warranties, final certifications, and similar documents.
  - 3. Obtain and submit occupancy permits, operating certificates, and similar releases and access to services and utilities, unless waived by the Contracting Officer.
  - 4. Arrange to deliver tools, spare parts, extra materials, and similar items to a location designated by the Contracting Officer. Label with manufacturer's name and model number where applicable.
  - 5. Complete startup testing of systems.
  - 6. Submit test, adjust, and balance records.
  - 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 8. Advise the Contracting Officer of changeover in other utilities.
  - 9. Submit changeover information related to the State's occupancy, use, operation, and maintenance.
  - 10. Complete final cleaning requirements, including touch up painting.

11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
12. Submit the O&M Manual(s) for review.
13. Submit Field-Posted As-Builts electronically per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT

### **1.03 FINAL COMPLETION**

- A. Preliminary Procedures: Within 10 days from the Project Acceptance Date, complete the following items in addition to requirements of GENERAL CONDITIONS Article 7 PROSECUTION AND PROGRESS:
  1. Instruct the State's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training media materials.

### **1.04 LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

- A. Preparation: Submit 2 copies of any updated and action taken list. In addition to requirements of GENERAL CONDITIONS Article 7 PROSECUTION AND PROGRESS, include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project Name and Title.
    - b. DAGS Job No.
    - c. Date and page number.
    - d. Name of Contractor.

### **1.05 PROJECT RECORD DOCUMENTS AND REQUIREMENTS**

- A. General:
  1. Definition: "Project Record Documents", including Record Drawings, shall fulfill the requirements of "Field-Posted As-Built Drawings" listed in the GENERAL CONDITIONS.
  2. Do not use Project Record Documents for daily construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Contracting Officer's reference during normal working hours and electronically per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT. Maintain these documents as specified in paragraph entitled "Record Drawings" hereinafter.
  3. The Designer, under contract with the State, will update the drawings to show all addendum, PCD, and sketch changes. The Contracting Officer will

transmit these drawings (mylar or vellum) to the Contractor who will make all "red-line" corrections to these drawings to record the changes depicted on the Contractor's Field Posted Record ("As-Builts") by accepted drafting practices as approved by the Contracting Officer.

4. Where the recorded changes depicted on the Contractor's Field Posted Record ("As-Builts") are in the form of shop drawings, the Contractor shall provide those shop drawings electronically on the same sheet size as the drawings transmitted to the Contractor. The new drawing sheets shall be titled and numbered to conform to the construction drawings and clearly indicate what information they supercede in the actual construction drawings. For example a new drawing that replaces drawing M-3, could be numbered M3a.
  5. The Contractor shall bring to the attention of the Contracting Officer any discrepancy between the changes made by the Designer and those depicted on addendum, PCD, and sketch changes. The Contracting Officer will resolve any conflicts.
  6. Submit final Record Documents (Field Posted Record Drawings) before the Final Inspection Date and no later than the Contract Completion Date, unless the GENERAL CONDITIONS require otherwise.
  7. The Contractor shall guarantee the accuracy of its final Record Documents. The State will hold the Contractor liable for costs the State incurs as a result of inaccuracies in the Contractor's Record Documents.
  8. Prepare and submit construction photographs and electronic files, damage or settlement surveys, property surveys, and similar final record information as required by the Contracting Officer.
  9. Deliver tools, spare parts, extra materials, and similar items to a location designated by the Contracting Officer. Label with manufacturer's name and model number where applicable.
  10. Submit pest-control final inspection report and warranty.
  11. Submit Final, corrected O&M Manual(s).
- B. Record Drawings:
1. Maintain a duplicate full-size set as the Field Posted Record ("As-Builts") Drawings at the job site. Clearly and accurately record all deviations from alignments, elevations and dimensions, which are stipulated on the drawings and for changes directed by the Contracting Officer that deviate from the drawings.
  2. Record changes immediately after they are constructed in place and where applicable, refer to the authorizing document (Field Order, Change Order, or Contract Modification). Use red pencil to record changes. Make Field Posted Record Drawings available to the Contracting Officer at any time so that its clarity and accuracy can be monitored and can be countersigned for validity.
    - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.

- b. Accurately record information in an understandable drawing technique.
  - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  - d. Mark the contract drawings or the shop drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on contract drawings.
  - e. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - f. Locate concealed building utilities by dimension from bench marks or permanent structures. Locate site utilities by dimensions, azimuth and lengths from bench marks or permanent structures.
  - g. Note field order numbers, Change Order numbers, Contract Modification numbers, Alternate numbers, post-construction drawing numbers (PCD) and similar identification (RFI numbers) where applicable.
  - h. The Contractor shall initial each deviation and each revision marking.
3. Use the final updated Contract Drawing set (including all addenda, PCD, and sketches) plus applicable shop drawings for making the final Field Posted Record Drawings submittal.
  4. Certify drawing accuracy and completeness. Label and sign the record drawings or use digital electronic signature as approved by the Contracting Officer.
  5. Label the title sheet and on all sheets in the margin space to the right of the sheet number, written from the bottom upward, with the title "FIELD POSTED RECORD DRAWINGS" and certification information as shown below. Provide a signature line and company name line for each subcontractor that will also certify the respective drawing. Adjust size to fit margin space.

FIELD POSTED                      Certified By: \_\_\_\_\_ Date: \_\_\_\_\_  
RECORD DRAWINGS              Contractor's Company Name

6. Revise the Drawing Index and label the set "FIELD POSTED RECORD DRAWINGS". Include the label "A COMPLETE SET CONTAINS \_\_\_\_\_ SHEETS" in the margin at the bottom right corner of each sheet. Quantify the total number of sheets comprising the set.
7. If the Contracting Officer determines a drawing does not accurately record a deviation or omits relevant information, the State will correct any FIELD POSTED RECORD DRAWINGS sheet. Contractor will be charged for the State's cost to correct the error or omission.
8. Use the final Field Posted Record Drawings sheets and create one electronic version of the set. The set shall be recorded in Adobe Acrobat PDF (Portable Document Format). Create a single indexed, bookmarked PDF file of the entire set of drawings and upload electronically per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT.

## **1.06 WARRANTIES**

- A. Submittal Time: Submit written manufacturer's warranties at request of the Contracting Officer for designated portions of the Work where commencement of warranties other than Project Acceptance date is indicated.
- B. Partial Occupancy: Submit properly executed manufacturer's warranties within 45 days of completion of designated portions of the Work that are completed and occupied or used by the State during construction period by separate agreement with Contractor.
- C. Organize manufacturer's warranty documents into an orderly sequence based on the table of contents of the Specifications.
  - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 inch x 11-inch paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer and prime contractor.
  - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES", Project Name and Title, DAGS Job Number, and name of Contractor.
  - 4. Use the final submittal of the warranties to create an electronic Adobe Acrobat PDF (Portable Document Format) version of the bound warranty documents files. Each sheet shall be separately scanned, at 600 DPI or better into a PDF file, indexed, and uploaded electronically per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT.

## **1.07 OPERATION AND MAINTENANCE MANUALS**

- A. Assemble complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
  - 1. Operation Data:
    - a. Emergency instructions and procedures.
    - b. System, subsystem, and equipment descriptions, including operating standards.
    - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
    - d. Description of controls and sequence of operations.
    - e. Piping diagrams.
  - 2. Maintenance Data:
    - a. Manufacturer's information, Material Safety Data Sheets, and a list of spare parts.
    - b. Name, address, and telephone number of installer or supplier.
    - c. Maintenance procedures.

- d. Maintenance and service schedules for preventive and routine maintenance.
  - e. Maintenance record forms.
  - f. Sources of spare parts and maintenance materials.
  - g. Copies of maintenance service agreements.
  - h. Copies of warranties and bonds.
- B. Use the following 3 paragraph headings, “Notes, Cautions and Warnings”, to emphasize important and critical instructions and procedures. Place the words “Notes”, “Cautions”, or “Warnings” immediately before the applicable instructions or procedures. Notes, Cautions and Warnings are defined as follows:
- 1. Note: highlights an essential operating or maintenance procedure, condition or statement.
  - 2. Caution: highlights an operating or maintenance procedure, practice, condition or statement which if not strictly observed, could result in damage to or destruction of equipment, loss of designed effectiveness, or health hazards to personnel.
  - 3. Warning: highlights an operating or maintenance procedure, practice, condition, or statement that if not strictly observed, could result in injury to or death of personnel.
- C. Organize the Operation and Maintenance Manuals into suitable sets of manageable size. Bind and index data in heavy-duty, “D” type 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Binder color shall be maroon, or if not available red. Identify each binder on front and spine with the printed title “OPERATION AND MAINTENANCE MANUAL”, Project Name and Title include building number when appropriate, DAGS Job Number, Prepared For: User Agency, Prepared By: Contractor and Volume Number. Each binder is a single volume.
- D. Electronic Format
- 1. Provide all information (narratives, drawings and manual) in electronic PDF format and upload per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT. Provide Compact Disc (CD) or DVD if files are too large. Provide drawings and plans prepared for the O&M Manuals drawn electronically and saved as a PDF file. Name and index the files for ease of identification and updates.
  - 2. Provide the complete O&M Manual using Adobe Acrobat PDF (Portable Document Format) files. Each sheet shall be separately scanned into a PDF file, indexed, bookmarked, hyperlinked to the table of contents uploaded per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT. Scanned documents shall be scanned at 600 DPI or better. Indexes and bookmarks may be highlighted or colored text.
- E. Pre-Final Submittal: Submit 1 printed set of Final Operation and Maintenance Manual, for review by the Contracting Officer, at least 5 days prior to scheduled final inspection. Manuals shall be marked as Pre-Final.

1. Make any correction noted before submitting the final Operation and Maintenance Manuals.
  2. The set will be returned with comments. Additional review comments may include problems discovered during the O&M Manual's review, site validation, and facility start up and will be provided to the Contractor after facility Project Acceptance Date.
- F. Final Submittal: Use the final submittal of the manuals to create the electronic PDF file version of the bound Operation and Maintenance Manuals documents. Include the Submittal (100 percent) review comments along with a response to each item. Upload Final Submittal per SECTION 1322 – WEB BASED CONSTRUCTION MANAGEMENT. Final printed manual and any disks shall be marked as Final and sent to the Contracting Officer.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## **PART 3 - EXECUTION**

### **3.01 DEMONSTRATION AND TRAINING**

- A. Instruction: Instruct the State's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
1. Provide instructors experienced in operation and maintenance procedures.
  2. Provide instruction at mutually accepted times.
  3. Schedule training with the State's users, through the Contracting Officer with at least 7 days advanced notice.
  4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
  2. Review of documentation.
  3. Operations.
  4. Adjustments.

5. Troubleshooting.
6. Maintenance.
7. Repair.

### **3.02 FINAL PROGRESSIVE CLEANING**

- A. General: Provide progressive final cleaning for each phase of work prior to starting the next phase. In addition to requirements of Article 7 of the GENERAL CONDITIONS conduct cleaning and waste-removal operations to comply with local laws and ordinances and federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturers written instructions unless noted otherwise. Complete the following cleaning operations before requesting final inspection for entire Project or for a portion of Project:
  1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
  2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits resulting from construction activities.
  3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
  4. Remove tools, construction equipment, machinery, and surplus material from Project site.
  5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
  6. Remove debris and surface dust from limited access spaces, including: roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
  7. Sweep concrete floors broom clean in unoccupied spaces.
  8. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
  9. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass surfaces, taking care not to scratch surfaces.



10. Remove labels that are not permanent.
  11. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
  12. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  13. Replace parts subject to unusual operating conditions.
  14. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  15. Replace disposable air filters and clean permanent air filters. Clean the exposed surfaces of diffusers, registers, and grills.
  16. Clean ducts, blowers, and coils if units were operated without filters during construction.
  17. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
  18. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the State's property. Do not discharge volatile, harmful, or dangerous materials into drainage and sewer systems or onto State property. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

## DIVISION 2 - EXISTING CONDITIONS

### SECTION 02410 - SELECTIVE DEMOLITION

#### PART 1 GENERAL

##### 1.01 GENERAL TERMS AND CONDITIONS:

The General Terms and Conditions, (not specifically attached), the Special Provisions, and all other applicable documents preceding these specifications shall govern all work specified hereinafter in all DIVISIONS AND SECTIONS.

##### 1.02 SCOPE:

- A. Extent of selective demolition work is indicated on the drawings. Selective demolition work includes but is not limited to selective demolition, removal, and subsequent disposal of all materials indicated or required to be removed.
- B. It shall be the Contractor's responsibility to examine the project site and determine for himself/herself the existing conditions.
- C. Execute all work in an orderly and careful manner with due consideration for all items of work to remain.
- D. Obvious conditions which exist on the site shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein or may vary therefrom.
- E. All debris of any kind accumulated from the work of this section shall be disposed off the site.
- F. Protect building at all times from damage during construction work. Coordinate with work on the roof to provide temporary cover, weather protection, waterproofing, etc. as required over unfinished work areas at the end of each day and during rain to prevent damage.
- G. Protect all existing conditions surrounding the work area, including but not limited to, walkways, parking, landscaping, etc. at all times from damage.
- H. Any damage as a result of demolition work and any neglect to provide protection shall be fixed new or replaced at Contractor's own expense.
- I. Demolish and remove materials as indicated on the drawings and as required to perform work under this project.
- J. Remove/relocate existing furniture, equipment, pictures, signage, blinds, etc. as required to perform demolition work. Return all items to its original location, unless otherwise indicated or directed by Contracting Officer after completion of work.
- K. Permits, Notices, Etc.:

1. The Contractor shall procure and pay for all necessary permits or certificates that may be required in connection with this work.
2. The Contractor shall serve proper notice and consult with the Contracting Officer regarding any temporary disconnections of electrical or other utility lines in the area which may interfere with the removal work, and all such lines where necessary shall be properly disconnected or relocated before commencing with the work.

L. Related Work Specified Elsewhere:

(NONE)

1.03 SUBMITTALS:

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to the Contracting Officer for review prior to commencement of work. Include coordination for temporary shut-off and continuation of utility services as required, together with details for dust and noise control protection.

1.04 JOB CONDITIONS:

- A. Condition of Structure: The State assumes no responsibility for actual condition of items or portions of structure to be demolished.
- B. Existing Conditions: Conditions existing at time of commencement of contract will be maintained by the State insofar as practicable.
- C. Occupied Spaces: Do not interfere with use of adjacent occupied spaces. Maintain free and safe passage to and from occupied spaces.
- D. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor, may be removed from structure as work progresses. Transport salvaged items from site as they are removed. Storage or sale of removed items on site will not be permitted.
- E. Explosives: Use of explosives shall not be permitted.
- F. Utility Services: The existence of exposed and concealed utility lines other than those shown on the drawings is not definitely known. Should any utility lines be encountered, the Contractor shall immediately notify the Contracting Officer and follow his/her direction as to procedure. Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations. Do not interrupt existing utilities serving occupied building or facilities, except when authorized in writing by the Contracting Officer. Outages and interruptions must be approved in advance by the Contracting Officer. Submit written notice of outages and interruptions not less than fourteen (14) days in advance of intended outage. Report damage, however slight, immediately. Do not repair or reconstruct any pipe, conduit, or installation without authorization, except perform emergency repairs immediately.
- G. Dust Control:

1. Keep dust within acceptable levels at all times, including non-working hours, weekends and holidays, in conformance with Hawaii Administrative Rules, Title 11, Department of Health, Chapter 60.1 - Air Pollution Control, latest edition.
2. Mechanical dry sweeping not permitted. Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable.
3. During loading operations, water down debris and waste materials to allay dust.
4. The method of dust control and all costs incurred thereof shall be the responsibility of the Contractor.

H. Noise Control:

1. Noise shall be kept within acceptable levels at all times in conformance with Hawaii Administrative Rules, Title 11, Department of Health, Chapter 46 – Community Noise Control, latest edition as amended. The Contractor shall obtain and pay for community noise permit from the State Department of Health when the construction equipment or other devices emit noise at level exceeding the allowable limits.
2. All internal combustion engine powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.
3. Conform to noise control related events at the project site or adjoining facilities as directed by the Contracting Officer.

I. Other Controls:

1. Whenever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutter and catch basins unless treated to comply with Department of Health pollution regulations.
2. Trucks hauling materials shall be covered as required by PUC regulation. Trucks hauling fine materials shall be covered.

- J. Existing Conditions: The Contractor shall be responsible for protection of existing conditions for the entire duration of the project. Damage to the existing conditions as a result of the work of this section shall be corrected at Contractor's own expense.

**PART 2 PRODUCTS** (Not applicable)

**PART 3 EXECUTION**

- 3.01 INSPECTION: Prior to commencement of selective demolition work, inspect areas in which work will be performed. Inventory existing conditions of structure surfaces, equipment or surrounding properties which could be misconstrued as damage resulting

from selective demolition work; photograph, video or otherwise document and file with the Contracting Officer prior to starting work.

3.02 SELECTIVE DEMOLITION:

- A. Perform selective demolition work, including all improvements indicated on the drawings, in a systematic manner. Use such methods as required to complete work indicated on the drawings in accordance with demolition schedule and governing regulations. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- B. If unanticipated mechanical, electrical, or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Contracting Officer in written, accurate detail. Pending receipt of directive from Contracting Officer rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.03 PROTECTIONS:

- A. Provide temporary barricades and other forms of protection as required to protect the general public from injury due to selective demolition work.
  - 1. Erect temporary barricades as required to prevent people from entering into project area to the extent as acceptable to the Contracting Officer. The extent of barricades may be adjusted as necessary with the acceptance of the Contracting Officer. This work shall be accomplished at no extra cost to the State.
  - 2. When necessary, the Contractor shall provide, erect, and maintain lights, barriers, etc., as required by traffic and safety regulations with special attention to protection of life.
  - 3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or elements to be demolished, and adjacent facilities or work to remain.
  - 4. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
  - 5. Life safety procedures and provisions shall be in conformance with all applicable Federal, State, and City and County regulations, including OSHA.
  - 6. Remove protections at completion of work.

3.04 DAMAGES: Promptly repair damages caused to adjacent facilities by demolition work at Contractor's own expense.

3.05 TRAFFIC:

- A. Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from the Contracting Officer. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations, as directed by the Contracting Officer.

- B. Buildings and facilities which are essential for public use for the construction period shall be provided with safe pedestrian passageways around the construction site as per ADAAG 201.3, 206 and ADAAG Chapter 4.
- 3.06 DISPOSAL OF DEMOLISHED MATERIALS: Remove debris, rubbish, and other materials resulting from demolition operations from building site daily. Transport and legally dispose of materials off site. Burning of removed materials shall not be permitted on project site.
- 3.07 HAZARDOUS MATERIALS: If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.
- 3.08 MATERIAL STORAGE: Removed items to be re-installed by the Contractor shall be stored in a secured room. The Contractor shall be responsible for all items and shall replace any missing items at his/her own expense.
- 3.09 CLEAN-UP AND REPAIR:
- A. Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.
  - B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.
  - C. Where exposed existing surfaces and/or materials are damaged or left unfinished by the removal work, the resultant exposed unfinished surfaces shall be repaired, patched, filled, or finished to match the adjoining existing surfaces. Where the method of repair work is not indicated or specified, the Contractor shall perform the repair work in accordance with the best recognized workmanlike procedure.
  - D. All existing grass areas disturbed or damaged due to construction or ingress or egress to the site shall be repaired to its original conditions. Grass areas shall be recultivated, topsoiled, and then grassed with the same kind and type of material as existing.
  - E. Trenches, holes, depressions, and pits left by the removal of miscellaneous improvements shall be backfilled with suitable material and compact to ninety-five percent (95%) maximum dry density as determined by ASTM Test Method D 1557.

END OF SECTION 02410

## DIVISION 3 - CONCRETE

### SECTION 03300 - CAST-IN-PLACE CONCRETE

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes.

##### 1.02 DEFINITIONS

Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

##### 1.03 SUBMITTALS

- A. Submit in accordance with SECTION 01300 - SUBMITTAL PROCEDURES.
- B. Product Data: Reinforcing steel - Certified mill test results or laboratory test results. Indicate bar size, yield strength, ultimate tensile strength, elongation and bend test. Provide chemical composition for rebars that are to be welded.
- C. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments. Indicate amounts of mix water to be withheld for later addition at Project site.
- D. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement". Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- E. Welding Certificates: Copies of certificates for welding procedures and personnel if welding is required.
- F. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance with the requirements indicated, based on comprehensive testing of current materials.
- G. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
  - 1. Form materials and form-release agents.
  - 2. Steel reinforcement and reinforcement accessories.
  - 3. Curing materials.

- H. Warranty: Submit warranty as noted under items entitled "WARRANTY" and "DRYING CONCRETE SLABS TO LIMIT MOISTURE VAPOR EMISSIONS AND ALKALINITY" hereinbelow.

#### **1.04 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C94/C94M requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C1077 and ASTM E329 to conduct the testing indicated. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- D. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel", if welding is required.
- E. ACI Publications: Comply with the following, unless more stringent provisions are indicated and maintain a copy at the field office.
  - 1. ACI 301, "Specification for Structural Concrete".
  - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials".
  - 3. ACI 347R "Guide to Formwork for Concrete".

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

Deliver, store, and handle steel reinforcement to prevent bending and damage.

### **PART 2 - PRODUCTS**

#### **2.01 FORM FACING MATERIALS**

- A. Smooth-Formed Finished Concrete: Comply with ACI 347R. Provide new or good finish form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Plywood, metal, or other ACI 347R approved panel materials.
  - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
    - a. High-density overlay, Class 1, or better.
    - b. Medium-density overlay, Class 1, or better, mill-release agent treated and edge sealed.



- c. Structural 1, B-B, or better, mill oiled and edge sealed.
  - d. B-B (Concrete Form), Class 1, or better, mill oiled and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least 2 edges and one side for tight fit.
  - C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4-inch, minimum.
  - D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces. Form oils or waxes shall not be used for concrete surfaces intended to be painted. Formulate form-release agent with rust inhibitor for steel form-facing materials.

## **2.02 STEEL REINFORCEMENT**

- A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed, unless otherwise noted on the drawings. All reinforcing bars to be welded shall comply with ASTM A706/A706M, Grade 60, deformed.

## **2.03 REINFORCEMENT ACCESSORIES**

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place that will not puncture the vapor barrier. Use plastic straps or brightly colored tie wires to secure reinforcing. Manufacture bar supports according to CRSI's "Manual of Standard Practice" galvanized from steel wire, plastic, or precast concrete, and as follows:
  1. For concrete surfaces exposed to view and where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected. Refer to item entitled "STEEL REINFORCEMENT" hereinbelow for chair support spacing.
  2. For reinforcing supports against earth or vapor barrier, use precast concrete supports that have a surface area not less than 4 square inches and have a compressive strength equal to or greater than specified compressive strength of concrete being placed.
- B. Zinc Repair Material: ASTM A780/A780M, zinc-based solder, electroplated zinc, paint containing zinc dust, or sprayed zinc.

## **2.04 CONCRETE MATERIALS**

- A. Portland Cement: ASTM C150/C150M, Type 1.
- B. Pozzolans:
  1. Fly Ash: ASTM C618, Class C or F.
  2. Ground Granulated Blast-Furnace Slag: ASTM C989/C989M, Grade 100 or 120.
- C. Normal-Weight Aggregate: ASTM C33/C33M, uniformly graded, and as follows:
  1. Class: Moderate weathering region, but not less than 3M.

2. Aggregate Size: 1-1/2 inches.
  3. Aggregate Size: No. 57 (one-inch to No. 4).
  4. Aggregate Size: No. 67 (3/4-inch to No. 4).
- D. Size of Coarse Aggregate: Except when otherwise specified or permitted, maximum size of coarse aggregate shall not exceed three-fourths of the minimum clear spacing between reinforcing bars (or bundled bars), one-fifth of the narrowest dimension between the sides of forms, or one-third of the thickness of slabs or toppings.
- E. Water: Mixing water for concrete shall be potable, non-potable or a blend of potable and non-potable water.
1. Potable water may be used without testing for conformance to ASTM C1602/C1602M.
  2. Non-potable water or a blend of potable and non-potable water shall be tested for conformance to ASTM C1602/C1602M.
  3. Use only potable water for site-produced concrete.

## **2.05 ADMIXTURES**

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C260/C260M.
- C. Water-Reducing Admixture: ASTM C494/C494M, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
- E. Water-Reducing and Accelerating Admixture: ASTM C494/C494M, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type D.

## **2.06 CURING MATERIALS AND EVAPORATION RETARDERS**

- A. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
- B. Water: Potable.
- C. Clear, Solvent-Borne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B.
- D. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

- E. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

## **2.07 CONCRETE MIXTURES**

- A. Prepare mixture proportions for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
  - 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
- B. Concrete Pads: Proportion normal-weight concrete mixture as follows:
  - 1. Minimum Compressive Strength: 4,000 psi at 28 days.
  - 2. Maximum Water-Cement Ratio: 0.45. Maximum water-cement ratio. No water shall be added in the field. Ready mix producer may add superplasticizers in the field as required to adjust workability and slump.
  - 3. Slump Limit: 6-inches if concrete is tailgated. Slump shall be 8 inches or greater if pumped.
- C. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
  - 1. Fly Ash: 25 percent.
  - 2. Combined Fly Ash and Pozzolan: 25 percent.
  - 3. Ground Granulated Blast-Furnace Slag: 50 percent.
  - 4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent Portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
- D. Do not add air entrainment to concrete of trowel-finished interior floors. Do not allow entrapped air content to exceed 3 percent.
- E. Limit water-soluble, chloride-ion content in hardened concrete per ACI 318 Chapter 4 for corrosion protection of reinforcing steel.
- F. Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
  - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
  - 3. Use water-reducing admixture in pumped concrete, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
  - 4. Use crystalline integral concrete waterproofing admixture in all walls, columns, and beams, interior slabs-on-grade, and any slabs-on-grade which contain reinforcement. Dosage of the waterproofing admixture shall be at 2 percent by mass of all cementitious content of up to a maximum of

13.5 pounds per cubic yard of concrete, or as recommended by admixture manufacturer, whichever is greater.

## **2.08 FABRICATING REINFORCEMENT**

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice".
- B. Any steel reinforcement to be welded shall follow the procedures of AWS 1.4/1.4M, "Structural Welding Code - Reinforcing Steel".

## **2.09 CONCRETE MIXING**

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94/C94M, and ASTM C1116/C1116M and furnish batch ticket information. Batch ticket information shall include design mix reference, water that can be added at the jobsite, and admixtures. For transit mixing, complete not less than 70 revolutions of the drum at the manufacturer's rated mixing speed. Discharge concrete into its final position within 90 minutes after introduction of batch water to the cement. If a retarder admixture is used, the discharge time limit of 90 minutes may be increased by the time specified for retardation by the admixture manufacturer or the concrete supplier. Mix concrete a minimum of one minute at mixing speed immediately prior to discharge.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials according to ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of one cubic yard or less, continue mixing at least one and one-half minutes, but not more than 5 minutes after all ingredients are in mixer, before any part of batch is released.
  - 2. For mixer capacity larger than one cubic yard increase mixing time by 15 seconds for each additional one cubic yard.
  - 3. Provide batch ticket for each batch discharged and used in the work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of concrete placement in structure.
  - 4. Hand mixed concrete will not be allowed, except to make up shortages for fence post footing, thresholds, curbs and gutters, thrust block and utility trench encasements.

## **PART 3 - EXECUTION**

### **3.01 FORMWORK**

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
  - 1. Class A, 1/8-inch.
  - 2. Class B, 1/4-inch.
  - 3. Class C, 1/2-inch.
  - 4. Class D, one-inch.
- D. Construct forms to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to one vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds. Maintain the integrity of the vapor barrier membrane.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Place 3/4-inch chamfer strips in corners of formwork to produce beveled edges on permanently exposed surfaces.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### **3.02 EMBEDDED ITEMS**

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor bolts, accurately located, to elevations required with embedment required.
  2. Install inserts, hangers, metal ties, nailing strips, blocking, grounds and other fastening devices needed for attachment of other work.
- B. Locate electrical or mechanical conduits and fittings so that the strength of the concrete member is not impaired. "Conduits" include pipes, ducts, and electrical conduits. Unless required otherwise on the drawings, conform to the following:
1. Concrete Slabs on Grade: Do not embed conduits within the thickness of any concrete slab on grade. Place conduits in the subgrade below the concrete slabs, but not within the thickness of the base course or gravel cushion, if any is required.
- C. The Contractor shall coordinate the installation of all embedded items and penetrations. Cost of any added reinforcement required at pipe and conduit penetration and embedment shall be borne by the Contractor.

### **3.03 REMOVING AND REUSING FORMS**

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the work, that does not support weight of concrete may be removed after cumulatively curing at not less than 50 degrees Fahrenheit for 24 hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained. The 24 hour period may be reduced to 12 hours in compliance with ACI 347R with prior approval from the County Coordinator.
- B. Leave formwork and shoring in place to support construction loads and weight of concrete in structural members until in-place strength of concrete has reached its specified compressive strength at 28 days. Determine compressive strength of in-place concrete by testing representative field-cured test specimens according to ACI 301.
- C. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for reuse at exposed surfaces. Apply new form-release agent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by the County Coordinator.
- E. Clean formliner before each use. Replace damaged formliner whose continued use of repair would negatively impact the aesthetics of the concrete finish.

### **3.04 STEEL REINFORCEMENT**

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, and other foreign materials.

- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
1. Shop or field-weld reinforcement according to AWS D1.4, where indicated.
  2. Support slab reinforcing bars as follows:

BAR SIZE	MAXIMUM DISTANCE BETWEEN SUPPORTS
No.3	2-feet
No.4	3-feet
No.5	4-feet
No.3 at 15-inches each way	4-feet 6-inches on center each way

- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

### 3.05 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed. Provide notification to the County Coordinator 2 days prior to the placement of concrete.
- B. Before placing concrete, water may be added at Project site, subject to limitations of ACI 301. Up to 2 gallons of water per cubic yard of concrete may be added at the jobsite provided the approved design mix accommodates the additional water. Do not add water to concrete after adding high-range water-reducing or plasticizing admixtures to mix.
- C. Convey concrete from mixer to the place of final deposit rapidly by methods that prevent segregation or loss of ingredients and will insure the required quality of concrete. Use conveying equipment, conveyors, hoppers, baffles, chutes, pumps that are sized and designed to prevent cold joints from occurring and prevent segregation in discharged concrete. Clean conveying equipment before each placement.
- D. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- E. Deposit concrete in forms in horizontal layers with proper consolidation into previous layers and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints. For high wall pours (above 12-feet), Contractor must show its experience and demonstrate its proficiency before the County Coordinator will permit pours in excess of 12-feet.

1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI 309R.
  2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6-inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete around reinforcement, embedded items, and into corners of forms to eliminate honeycombing or planes or weakness due to air voids and stone pockets.
  3. Make construction joints only where located on drawings unless otherwise approved by the County Coordinator. Plan pours to continuously place concrete from one construction joint to another.
- F. Deposit and consolidate concrete for slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleed-water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- G. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 95 degrees Fahrenheit at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.



### **3.06 FINISHING FORMED SURFACES**

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched. Remove fins and other projections exceeding ACI 347R limits for class of surface specified.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8-inch in height.
  - 1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
  - 2. Do not apply rubbed finish to smooth-formed finish.
- C. Rubbed Finish: Apply the following to smooth-formed finished concrete:
  - 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
  - 2. Grout-Cleaned Finish (Burlap): Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part Portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp for at least 36 hours.
  - 3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part Portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.
  - 4. Cementitious Coating (Cement Wash): Prepare, apply and cure the coating per manufacturer's requirements. Apply in 1/16-inch thick coats not to exceed 1/8-inch. Cementitious coatings are finished coatings and not to be used as patching or repair materials. Cement-sand-water mix are not cementitious coatings as defined under item entitled "RELATED MATERIALS" hereinabove. Under no circumstances will products containing gypsum plaster be allowed as a cementitious coating.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

### 3.07 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes. Apply scratch finish to surfaces indicated and to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, Portland cement terrazzo, and other bonded cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.
  2. Finish surfaces to the following tolerances, measured within 24 hours according to ASTM E1155 for a randomly trafficked floor surface:
    - a. Specified overall values of flatness, F(F) 25; and levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and levelness, F(L) 15.
    - b. Specified overall values of flatness, F(F) 35; and levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and levelness, F(L) 17; for slabs-on-grade.
    - c. Specified overall values of flatness, F(F) 30; and levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and levelness, F(L) 15; for suspended slabs.
    - d. Specified overall values of flatness, F(F) 45; and levelness, F(L) 35; with minimum local values of flatness, F(F) 30; and levelness, F(L) 24.
  3. Finish and measure surface so gap at any point between concrete surface and an unlevelled freestanding 10-foot-long straightedge, resting on 2 high spots and placed anywhere on the surface, does not exceed 1/8-inch.

- E. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- F. Broom Finish: Apply a broom finish to exterior concrete walkways (covered and exposed), platforms, steps, and ramps, and elsewhere as indicated. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with County Coordinator before application.

### **3.08 MISCELLANEOUS CONCRETE ITEMS**

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.
- D. Electrical Work: Use 3/4-inch maximum size of aggregates for duct encasement. Unless detailed otherwise, encase underground ducts or conduits as follows:
  - 1. Provide 3-inches minimum concrete cover around ducts or conduits. Use spacers to place and hold ducts. Provide 18-inches minimum earth cover over top of concrete encasement unless otherwise detailed.
  - 2. For future connections, provide a one-foot section of ducts or conduits to extend beyond concrete encasement and terminate with a coupling or end cap.
- E. Concrete for Drainage, Sewer and Plumbing Systems:
  - 1. Do not use calcareous coarse aggregates in sewerage structures or components.
  - 2. Unless specified elsewhere, construct sewer manholes in accordance with the latest adopted/amended edition of Section 23 SEWER MANHOLES of the "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".

### **3.09 CONCRETE PROTECTION AND CURING**

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.

- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including slabs and other surfaces, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than 7 days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12-inches, and sealed by waterproof tape or adhesive. Cure for not less than 7 days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
    - a. Moist cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
    - b. Cure concrete surfaces to receive floor coverings with either a moisture- retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
  - 3. Curing Compound: Apply uniformly in continuous operation by spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - 4. Curing: Apply uniformly to slabs indicated in a continuous operation by spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within 3 hours after initial application where recommended by the manufacturer. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### **3.10 CONCRETE SURFACE REPAIRS**

- A. Defective Concrete: Repair and patch defective areas. Remove and replace concrete that cannot be repaired and patched to the County Coordinator's approval.

- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part Portland cement to 2 and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
  - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2-inch in any dimension in solid concrete but not less than one-inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  - 2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by the County Coordinator.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
  - 1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01-inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  - 2. After concrete has cured at least 14 days, correct high areas by grinding.
  - 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  - 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
  - 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4-inch to

match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.

6. Repair defective areas, except random cracks and single holes one-inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mix as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  7. Repair random cracks and single holes one-inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to the County Coordinator's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to the County Coordinator's approval.

### **3.11 FIELD QUALITY CONTROL**

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C172/C172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cubic yard, but less than 25 cubic yard, plus one set for each additional 50 cubic yard or fraction thereof.
  2. Slump: ASTM C143/C143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C231/C231M, pressure method, for normal-weight concrete; ASTM C173/C173M, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.

4. Concrete Temperature: ASTM C1064/C1064M; one test hourly when air temperature is 40 degrees Fahrenheit and below and when 80 degrees Fahrenheit and above, and one test for each composite sample.
5. Unit Weight: ASTM C567/C567M, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
6. Compression Test Specimens: ASTM C31/C31M; cast and laboratory cure one set of 4 standard 6-inch by 12-inch cylinder specimens for each composite sample. Cast and field cure one set of 4 standard 6-inch by 12-inch cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C39/C39M; test 2 laboratory-cured specimens at 7 days and 2 at 28 days.
  - a. Test 2 laboratory-cured specimens at 7 days and 2 at 28 days.
  - b. Test 2 field-cured specimens at 7 days and 2 at 28 days.
  - c. A compressive-strength test shall be the average compressive strength from 2 specimens obtained from same composite sample and tested at age indicated.
- C. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- D. Strength of each concrete mix will be satisfactory if every average of any 3 consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- E. Test results shall be reported in writing to the County Coordinator, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- F. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by the County Coordinator but will not be used as sole basis for approval or rejection of concrete.
- G. Moisture Vapor Emission Test: Standard test method meeting ASTM F1869.
- H. Alkalinity (pH Level) Testing: Standard test required for floor slabs and all wall and ceiling surfaces to receive painted finishes. Testing of concrete to receive paint finish may be conducted under SECTION 09900 - PAINTING.

- I. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by the County Coordinator. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by the County Coordinator.

END OF SECTION



## DIVISION 7 - THERMAL AND MOISTURE PROTECTION

### SECTION 07920 - JOINT SEALANTS

#### PART 1 GENERAL

##### 1.01 GENERAL TERMS AND CONDITIONS

The General Terms and Conditions, (not specifically attached), the Special Provisions, and all other applicable documents preceding these specifications shall govern all work specified hereinafter in all DIVISIONS and SECTIONS.

##### 1.02 DESCRIPTION OF WORK: Completely close with sealant all joint indicated or specified to be sealed to a watertight condition.

##### 1.03 SUBMITTALS

- A. Submit under provisions of SECTION 01300 – SUBMITTALS.
- B. Manufacturer's Data: Submit six (6) copies of manufacturer's product data and specifications for type of sealant required to the Contracting Officer for acceptance.
- C. Material Safety Data Sheets (MSDS): Submit MSDS for each sealant product.
- D. Color Samples: Submit three (3) sets each of color finish samples of sealants.

##### 1.04 JOB CONDITIONS

- A. Examine joint surfaces and backing, and their anchorage to the structure and conditions under which joint sealer work is to be performed, and notify the State in writing of conditions detrimental to proper completion of the work and performance of sealers. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected in a manner acceptable to installer.
- B. Weather Conditions: Do not proceed with installation of sealants under adverse weather conditions. Proceed with the work only when weather conditions are favorable for proper cure and development of high early bond strength.

##### 1.05 PRODUCT HANDLING

- A. Delivery: Deliver sealants to the jobsite in sealed containers labeled to show the designated name, formula, or specification number, lot number, color, date of manufacture, shelf life, curing time, manufacturer's directions, and name of manufacturer.
- B. Storage: Carefully handle and store all materials to prevent inclusion of foreign materials. Remove from project site all damaged and deteriorated materials and materials exceeding their life.
- C. All sealant materials shall be installed prior to expiration of shelf life.

##### 1.06 WARRANTY: The Contractor shall execute to the State a 5-year written warranty after the Project Acceptance Date that the installation will be watertight and that any leaks

which develop during that period which are not due to improper use or willful damage will be repaired at no cost to the State. The warranty shall provide the following at no cost to the State:

- A. Repair of sealants as necessary to seal leaks which are attributable to faulty materials and/or workmanship.
- B. Repair or replacement of damage to the building and/or its finishes, equipment and/or furniture when occasioned by such leaks.

The Surety shall not be held liable beyond two (2) years from the Project Acceptance date.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Sealants shall contain no asbestos.
- B. Sealant Backer Rod: Compressible rod stock of polyethylene foam, polyethylene-jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable, nonabsorptive material as recommended for compatibility with sealant by the sealant manufacturer to control the joint depth for sealant placement, to break bond of sealant at bottom of joint, to form optimum shape of sealant bead on back side, and to provide a highly impressible backer which will minimize the possibility of sealant extrusion when joint is compressed. Do not use oakum or other types of absorptive materials as backstops.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer.
- D. Masking Tape: Non-staining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.
- E. Primer for Sealants: Non-staining, as recommended by the sealant manufacturer.
- F. Sealants:
  - 1. Sealant No. 1, at Exterior Joints: One-part polyurethane-based sealant, conforming to ASTM C 920, Type S, Grade NS, Use NT, Class 25 as applicable. Provide one (1) of the following:
    - a. Dymonic: Tremco, Inc.
    - b. Chem-Calk 900: Bostick Inc.
    - c. Sikaflex 1a: Sika Corporation.
    - d. Approved equal.
  - 2. Sealant No. 2, at Interior Joints: One-part acrylic latex sealant, conforming to ASTM C 834. Provide one (1) of the following:
    - a. AC-200 Acrylic Latex: Pecora Corp.
    - b. Chem-Calk 600: Bostick Inc.
    - c. Tremflex 834: Tremco.
    - d. Approved equal.

3. Sealant No. 3, Silicone Sealant: Mildew-resistant, conforming to ASTM C 920; Type S; Grade NS; Class 25; Use NT, formulated with fungicide; intended for sealing interior plumbing joints. Provide one (1) of the following:
  - a. 786 Mildew Resistant: Dow Corning Corp.
  - b. 898 Silicone Sanitary Sealant: Pecora Corp.
  - c. Tremsil 600 White: Tremco.
  - d. Approved equal.
  
4. Bedding Compound: For installation of thresholds and similar items indicated to be bedded in sealant, use a preformed butyl-polyisobutylene sealant tape. Size of tape as required for the specific application. Provide one (1) of the following:
  - a. Extru-Seal: Pecora Corp
  - b. 440 Tape: Tremco.
  - c. Chem-Tape 40: Bostik Inc.
  - d. Approved equal.

### **PART 3 EXECUTION**

- 3.01 MANUFACTURER'S INSTRUCTIONS: Comply with manufacturer's printed instructions, except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
  
- 3.02 EXAMINATION: Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.
  
- 3.03 JOINT PREPARATION
  - A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:
    1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; oil; grease; water repellants; water; and surface dirt.
    2. Clean concrete, masonry, and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
    3. Remove laitance and form release agents from concrete.
    4. Steel Surfaces in Contact with Sealant: Scrape and wire brush to remove loose mill scale. Remove dirt, oil, or grease by solvent cleaning, and wipe surfaces with clean cloths.

5. Clean metal, glass, and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

#### 3.04 INSTALLATION OF JOINT SEALERS

- A. General: Comply with joint sealer manufacturer's printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply. Do not apply sealant on wet surfaces or when the surface temperature exceeds 130 degrees F.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications and conditions indicated.
- C. Latex Sealant Installation Standard: Comply with requirements of ASTM C 1193 for use of latex sealants.
- D. Acoustical Sealant Application Standard: Comply with recommendations of ASTM C 919 for use of joint sealants in acoustical applications.
- E. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
  1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths, which allow optimum sealant movement capability.
    - a. Do not leave gaps between ends of joint fillers.
    - b. Do not stretch, twist, puncture, or tear joint fillers.
    - c. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.
  2. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
  3. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.

- F. Primer: Immediately prior to application of the sealant, clean out all loose particles from joints. Where recommended by sealant manufacturer, apply primer to joints in concrete, masonry units, wood, and other porous surfaces in accordance with compound manufacturer's instructions. Do not apply primer to exposed finish surfaces.
  - G. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
  - H. Tooling of Non-Sag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
    - 1. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
    - 2. Provide flush joint configuration per Figure 5B in ASTM C 1193, where indicated.
- 3.05 CLEAN-UP: Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.
- 3.06 PROTECTION: Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION 07920

## **DIVISION 9 - FINISHES**

### **SECTION 09250 - GYPSUM WALLBOARD**

#### **PART 1 GENERAL**

##### **1.01 GENERAL TERMS AND CONDITIONS**

The General Terms and Conditions, (not specifically attached), the Special Provisions, and all other applicable documents preceding these specifications shall govern all work specified hereinafter in all DIVISIONS and SECTIONS.

##### **1.02 DESCRIPTION OF WORK**

A. Provide all gypsum wallboard, accessories, and other related work as shown on drawings and as specified herein. Work shall include, but not limited to, the following:

1. Gypsum wallboard.
2. Ceiling support system.
3. Wallboard accessories.

B. Related Work Specified Elsewhere:

1. SECTION 07920 - SEALANTS: for sealant at joints.
2. SECTION 13930 - WET PIPE SPRINKLER SYSTEM: Coordinate fire sprinkler work.

##### **1.03 SUBMITTALS**

- A. Submit in accordance with Section 01300 – SUBMITTALS.
- B. Product Data: Submit manufacturer's technical information and manufacturer's recommended installation instructions for each material.

##### **1.04 QUALITY ASSURANCE**

A. INDUSTRY STANDARD:

Comply with applicable requirements of GA 216 "Application and Finishing of Gypsum Board" and GA 214 "Recommended Specification: Levels of Gypsum Board Finish" by the Gypsum Association, except where more detailed or more stringent requirement are indicated including the recommendations of the manufacturer.

B. TRANSVERSE LOADING:

The metal framing shall be capable of carrying a transverse load of 5 psf without exceeding the allowable stress or a deflection of L/360. Increase stud gauges or

decrease stud spacing to comply with these requirements at no additional cost to the State.

#### 1.05 DELIVERY, STORAGE AND HANDLING

Deliver gypsum wallboard materials in sealed containers and bundles, fully identified with manufacturer's name, brand, type and grade; store in a dry well ventilated space, protected from the weather, under cover and off the ground. Stack gypsum wallboard panels flat to prevent sagging. Joint materials shall be stored in accordance with manufacturer's printed instructions. Damaged or deteriorated materials shall be removed from jobsite.

## **PART 2 PRODUCTS**

### 2.01 MATERIALS

#### A. GYPSUM WALLBOARD:

ASTM C 36 "Gypsum Wallboard", 5/8-inch thick unless indicated otherwise, with tapered edges, 48-inches wide.

#### B. WALLBOARD FASTENERS:

ASTM C 1002 "Steel Drill Screws for the Application of Gypsum or Metal Plaster Bases", standard bugle head self-drilling, self-tapping corrosive-resistant drywall screws.

#### C. REINFORCED TAPE AND CEMENT:

ASTM C 475 "Joint Compound and Joint Tape for Finishing Gypsum Board", materials for treating joints and fastener heads shall be as manufactured or recommended by the manufacturer of the wall board used.

#### D. CEILING SUPPORT MATERIALS AND SYSTEMS:

1. General: Size ceiling support components to comply with ASTM C 754 "Installation of Steel Framing Members to Receive Screw-Attached Gypsum", unless indicated otherwise.
2. Direct Suspension Systems: Provide systems where indicated and/or required. Manufacturer's standard zinc-coated or painted steel system of furring runners, furring tees, and accessories designed for concealed support of gypsum drywall ceilings, of proper type for use intended. Provide system from one (1) of the following:
  - a. Armstrong.
  - b. United States Gypsum Co.
  - c. CertainTeed.
  - d. Approved equal.

3. Wire for Hangers and Ties: ASTM A 641 "Zinc-Coated (Galvanized) Carbon Steel Wire", Class 1 zinc coating, soft temper, 8 gauge for hangers and 18 gauge for ties.

E. WALLBOARD ACCESSORIES:

ASTM C 1047 "Accessories for Gypsum Wallboard and Gypsum Veneer Base", Vinyl Corp., Plastic Components Inc., Vinyl Tech or approved equal.

1. Trim: Vinyl Corp. "J" Bead JB 58 or approved equal.
2. Control Joint: Vinyl Corp. CJV 16 or approved equal.
3. Other Accessories: As indicated or necessary for complete installation.
4. All accessories shall be vinyl, PVC or approved equal.

F. JOINT TREATMENT MATERIALS:

ASTM C 475, type recommended by manufacturer for the application indicated, except as otherwise noted. Perforated tape, and joint and topping compound, or "all-purpose" compound. For tile backer boards, use joint treatment as recommended by tile backer board manufacturer.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

Examine substrates to which drywall construction attaches or abuts, preset hollow metal frames, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.02 INSTALLATION, GENERAL**

A. GENERAL:

Comply with parts of ASTM C 840 "Application and Finishing of Gypsum Board", Gypsum Association GA 216 and ASTM C 754 as applicable to the type of substrate and drywall support system indicated.

B. TOLERANCES:

1. Maximum variation of finish surface from true flatness shall be 1/8-inch in 10 feet in any direction unless specified otherwise.
2. Maximum variation of plumbness of wall shall be 1/8-inch in 10 feet of height.
3. Maximum variation from true position shall be 1/8-inch.

C. GYPSUM WALLBOARD, GENERAL:

1. Locate exposed end butt joint as far from center of ceilings as possible.



2. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16-inch open space between boards. Do not force into place.
3. Locate either edge or end joints over supports, except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that both tapered edge joints abut, and mill-cut or field-cut end joints abut. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
4. Attach gypsum board to framing and blocking as required for additional support at openings and cutouts.
5. Isolate perimeter of non-load bearing drywall partitions at structural abutments. Provide 1/4-inch to 3/8-inch space and trim edge with J-type semi-finishing edge trim. Seal joints with acoustical sealant. Do not fasten drywall directly to stud system runner tracks.
6. Space fasteners in gypsum boards in accordance with referenced standards and manufacturer's recommendations, except as otherwise indicated.

D. METHODS OF GYPSUM WALLBOARD APPLICATION:

1. Single-Layer Application: Use maximum length sheets possible to minimize end joints.
2. Single-Layer Fastening Method: Apply gypsum boards to supports by fastening with screws, spaced not to exceed 12-inch centers for ceilings.

E. DIRECT-HUNG GRID CEILING SUSPENSION SYSTEM:

1. Secure hangers to structural support by connecting directly to structure where possible, otherwise connect to inserts, clips or other anchorage devices or fasteners as indicated. Ensure that structural anchorage provisions have been installed to receive ceiling anchors in a manner that will develop their full strength and at spacing required to support ceiling.
2. Space main 4-feet on center and space hangers 4-feet on center along runners, except as otherwise shown.
3. Level main runners to a tolerance of 1/8-inch in 12 feet, measured both lengthwise on each runner and transversely between parallel runners.
4. Wire-tie or clip furring members to main runners and to other structural supports as indicated or as recommended by the manufacturer.
5. Direct-hung Metal Support System: Attach perimeter wall track or angle wherever support system meets vertical surfaces. Mechanically join support members to each other and butt-cut to fit into wall track.
6. Space furring member 16-inches on center, except as otherwise indicated.

7. Install auxiliary framing at termination of drywall work, and at openings for light fixtures and similar work, as required for support of both the drywall construction and other work indicated for support thereon.
8. Do not connect or suspend steel framing from ducts, pipes or conduit.
9. Keep hangers and braces 2-inches clear of ducts, pipes and conduits.
10. Sway-brace suspended steel framing with hangers used for support.

F. INSTALLATION OF TRIM ACCESSORIES:

1. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges by screwing, nailing or stapling in accordance with manufacturer's instructions and recommendations.
2. Install edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed. Provide type with face flange to receive joint compound except where semi-finishing type is indicated. Install J-type trim where work is tightly abutted to other work, and install special kerf-type where other work is kerfed to receive long leg of J-type trim. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).
3. Install J-type semi-finishing trim where indicated.

3.03 DRYWALL FINISHING

A. GENERAL:

Apply joint treatment at gypsum board joints (both directions), flanges of trim accessories, penetrations, fasteners heads, surface defects and elsewhere in accordance with ASTM C 840 and Gypsum Association GA 216 and GA 214 as required to prepare work for decoration.

1. Prefill open joints, rounded or beveled edges, using type of compound recommended by manufacturer.
2. Apply joint tape at joints between gypsum boards, except where a trim accessory is indicated.
3. Apply joint compound in three (3) coats (not including prefill of openings in base), and sand between last two (2) coats and after last coat. Fastener heads, dents, gouges, and cutouts shall be filled with joint compound and sanded.
4. Accessories at exposed joints, edges, corners, openings, and similar locations shall be taped, floated with joint compound, and sanded to produce surfaces ready for gypsum board finishes.

B. Finish:

1. Level 1: For ceiling plenum areas and other concealed areas.
2. Level 2: Where wall panels form substrates for tile.

3. Level 3: For wall surfaces to receive heavy duty wallcoverings.
4. Level 4: For ceiling surfaces to receive flat paint.
5. Level 5: For wall surfaces to receive semi-gloss enamel.
6. Where Level 5 gypsum board finish is indicated, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories; and apply a thin, uniform skim coat of joint compound over entire surface. For skim coat, use joint compound specified for third coat, or a product specially formulated for this purpose and acceptable to gypsum board manufacturer. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects, tool marks, and ridges and ready for decoration.
7. Where Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.
8. Where Level 3 gypsum board finish is indicated, embed tape in joint compound and apply first and fill (second) coats of joint compound.
9. Where Level 2 gypsum board finish is indicated, embed tape in joint compound and apply first coat of joint compound.
10. Where Level 1 gypsum board finish is indicated, embed tape in joint compound.

#### 3.04 BACKING PLATES AND ANCHORS

Backing plates and anchors or blocking which are to be attached to metal studs or furring for anchoring items and work indicated on the drawings or specified in other Sections shall be installed and secured. Plates and anchors shall be welded or fastened in place in accordance with approved setting drawings.

#### 3.05 CLEANING AND REPAIRING

- A. After installation and before painting, correct surface damage and defects. Leave surface clean and smooth, satisfactory to the painter. No painting shall be done over gypsum wallboard until the joints are thoroughly dry. Joints and fastenings are to be invisible after painting.
- B. Remove all drywall materials from electrical boxes, hardware, fixtures, flooring, and similar items and surfaces not intended to receive drywall materials.

#### 3.06 PROTECTION

Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum wallboard construction being without damage or deterioration at time of project acceptance.

END OF SECTION 09250

## SECTION 09511 - ACOUSTICAL PANEL CEILING

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Provide all acoustical ceiling where indicated on the drawings and as specified herein. The term "acoustical panel" and "acoustical tile" may be used interchangeably. Type of work includes the following:
  - 1. Acoustical panels.
  - 2. Suspension system.
- B. Related Work Specified Elsewhere:
  - 1. SECTION 13930 - WET PIPE SPRINKLER SYSTEM: Coordinate fire sprinkler work.
  - 2. DIVISION 15 - MECHANICAL: Coordinate mechanical work.
  - 3. DIVISION 16 - ELECTRICAL: Coordinate electrical work.

#### 1.02 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Submit manufacturer's product data and specifications for all items.
- C. Shop Drawings: Submit shop drawings which clearly show all components of the systems to be installed at this project. Include suspension system, furring, jointing, method of anchoring and fastening, and locations of mechanical and electrical features. Jointing diagrams shall show typical arrangement of the panels in each space, including the terminations at margins of ceilings and at intersections with vertical surfaces. Include typical details of the following:
  - 1. Intermediate framing for hanger supports that fall between structural framing members.
  - 2. Hanger fastenings at structural framing members and at main runners.
  - 3. Acoustical-unit support at ceiling penetrations.
  - 4. Splicing method for main and cross runners.
- D. Samples: Submit samples of acoustical panels, suspension system, anchor and fastening devices, and all required appurtenances.
- E. Warranty: Submit warranty as noted under item entitled "WARRANTY" hereinbelow.

#### 1.03 WARRANTY

Submit manufacturer's 30-year limited system warranty against visible sag, mold/mildew,

and bacterial growth. Written warranty shall be executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. The Surety shall not be held liable beyond two years from the project acceptance date.

#### 1.04 QUALITY ASSURANCE

- A. Provide acoustical panels/tiles through one source from a single manufacturer. Provide suspension system through one source from a single manufacturer.
- B. Provide acoustical panels/tiles designed and installed to withstand the effects of earthquake motions according to ASTM E 580/E 580M and current building code standard for ceiling suspension systems requiring seismic restraint.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension system components, and accessories to Project site in original, unopened packages, and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

#### 1.06 PROJECT CONDITIONS

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

#### 1.07 COORDINATION

Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

#### 1.08 EXTRA MATERIALS

Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

- A. Acoustical Panel/Tile: Full-size panels/tiles equal to 2 percent of quantity installed.
- B. Suspension System: Quantity of each exposed component equal to 2 percent of quantity installed.

## **PART 2 PRODUCTS**

### 2.01 MANUFACTURERS

Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- A. USG Corp.
- B. Armstrong Co.
- C. Celotex Corp.

## 2.02 MATERIALS

- A. Acoustic Panels: Products are based on "Clima Plus" series by USG Corp. to establish the basis of design. Where necessary for the replacement of existing panels occurs, the contractor shall field verify the existing pattern to match in the area of work from the following list.
  - 1. Pattern: "Frost", Item No. 490, White.
    - a. Size: 24-inches x 24-inches x 3/4-inch.
    - b. Edge: (SL) Shadow Line.
    - c. Location: Administration, Classroom, Billets, Mess Hall and Auditorium Buildings
  - 2. Pattern: Millenia, Item No. 78705, White.
    - a. Size: 24-inches x 48-inches x 3/4-inch.
    - b. Edge: (SLT) Shadow Line Tapered.
    - c. Location: Administration Building.
  - 3. Pattern: Eclipse, Item No. 78575, White.
    - a. Size: 24-inches x 48-inches x 3/4-inch.
    - b. Edge: (SQ) Square Edge.
    - c. Location: Administration, Classroom and Billets Buildings.
  - 4. Pattern: "Radar", Item No. 2410, White.
    - a. Size: 24-inches x 48-inches x 5/8-inch.
    - b. Edge: (SQ) Square Edge.
    - c. Location: Administration Building.
  - 5. Pattern: Premier Hi-Lite, Twill Panel, Item No. 7053G, White.
    - a. Size: 24-inches x 48-inches x 5/8-inch.
    - b. Edge: (SQ) Square Edge.
    - c. Location: Auditorium Building.
- B. Suspension System: Lay-in system shall consist of regular exposed grid of 15/16-inch main runner and cross tees. Product is based on "Clima Plus" series by USG Corp. to establish the basis of the existing design.
  - 1. Runner and Tees: Main runner and cross tees shall be as recommended by the manufacturer of the suspended system, conforming to the structural classification, ASTM C 635/C 635M. Main runners and cross tees shall be double-web intermediate-duty cold rolled steel, hot dip-galvanized coated, prefinish bake painted in color as selected from manufacturer's full range.
  - 2. Moldings: Edge moldings of profile as indicated shall be as recommended by the manufacturer of suspended system, matching carrier and cross tee in metal and finish.

3. Hanger Wires: ASTM A 641/A 641M zinc coated carbon steel wire, Class 1, 12 gauge, galvanized steel.
  4. Hold Down Clips: Manufacturer's standard hold-down clips spaced 24-inches on center on all cross tees.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung". Provide corrosion-resistant anchors and fasteners of type suitable for application.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. The acoustical installer shall be responsible for the examination and acceptance of all surfaces and conditions affecting the installation of his work. Start of his work shall constitute acceptance of all conditions. Unsatisfactory conditions shall be reported to the Contractor so that corrective measures can be taken prior to the start of this work.
- B. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid the use of less-than-half width units at borders, and comply with reflected ceiling plans wherever possible.
- C. Job Conditions: Acoustical materials must be installed under temperature and humidity conditions closely approximating those which will exist when the building is occupied. All windows and doors shall be in place and glazed; acoustical materials shall not be installed when building is damp and cold or dry and hot.

### **3.02 INSTALLATION**

- A. General: Install materials in accordance with manufacturer's printed instructions, and comply with governing regulations, and industry standards applicable to the work.
- B. Arrange acoustical units as indicated on the drawings.
- C. Where light fixture occurs, fixture shall not be supported from main runners or cross tee if the weight of the fixture causes the total dead load to exceed the deflection capability of the ceiling suspension system. In such cases the fixture load shall be supported by supplemental hangers within 6-inches of each fixture, or the fixture shall be supported separately.
- D. Ceiling Suspension Systems:
  1. Install suspension systems to comply with ASTM C 636/C 636M, ASTM E 580/E 580M, current building code, and with hangers supported only from building structural members as required. Locate hangers near each end and spaced as required, but not more than 4-feet along each carrying channel or direct-hung runners, unless otherwise indicated.
  2. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws or other devices which are secure and appropriate for



the substrate, and which will not deteriorate or fail with age or elevated temperatures.

3. Install edge moldings of the type indicated or required at edges of each acoustical ceiling area, and at locations where edge of units would otherwise be exposed after completion of the work.
    - a. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed. See Section 07920 - JOINT SEALANTS.
    - b. Secure moldings to building construction by fastening with screw-anchors into the substrate, through holes drilled in vertical leg. Space holes not more than 3-inches from each end and not more than 16-inches on center along each molding.
    - c. Level moldings with ceiling suspension system, to a level tolerance of 1/8-inch in 12-feet.
    - d. Miter corners of moldings accurately to provide hairline joints, securely connected to prevent dislocation.
  4. Cope exposed flanges of intersecting suspension system members, so that flange faces will be flush (cope flange of member supported by other member).
  5. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
  6. Install hold-down clips in areas indicated, in areas required by authorities having jurisdictions, and for fire-resistance ratings where required; space as recommended by panel manufacturer's written instructions, unless otherwise indicated.
- E. Installation of Ceiling Panels: Install ceiling panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders, penetrations, pipes/conduits, etc.

### 3.03 CLEANING AND REJECTION

- A. The Contractor shall exercise all necessary precautions to avoid damaging or soiling the units. All damaged units shall be replaced with new units by the Contractor.
- B. The following defects shall also be cause for rejection or replacement at the Contractor's expense:
  1. Uneven joints or unaligned surfaces.
  2. Soiled tiles not cleaned to original condition.
  3. Fractures, cracks or corner chips.
  4. Color variation.

5. Structurally unsound suspended system.
6. Damaged suspended system.
7. Warping, buckling, or sagging of ceiling board.

END OF SECTION 09511

## **SECTION 09720 - WALL/ CEILING COVERINGS**

### **PART 1 GENERAL**

#### 1.01 SUMMARY:

- A. Section Includes:
  - 1. Vinyl wall/ ceiling covering.
  - 2. Textile wall/ ceiling covering.

#### 1.02 ACTION SUBMITTALS:

- A. Product Data: For each type of product.
- B. Samples: For each type of wall/ ceiling covering and for each color, pattern, texture, and finish specified, full width by 36-inch long in size.

#### 1.03 INFORMATIONAL SUBMITTALS:

- A. Product test reports.

#### 1.04 CLOSEOUT SUBMITTALS:

- A. Maintenance data.

### **PART 2 PRODUCTS**

#### 2.01 PERFORMANCE REQUIREMENTS:

- A. The IBC exempts materials less than 0.036 inch thick applied directly to wall or ceiling surfaces from fire testing. Verify requirements of authorities having jurisdiction and revise "Fire-Test-Response Characteristics" Paragraph below to suit Project.
- B. Fire-Test-Response Characteristics: As determined by testing identical wall/ ceiling coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    - a. Flame-Spread Index: 25 or less.
    - b. Smoke-Developed Index: 50 or less.
  - 2. Fire-Growth Contribution: No flashover and heat and smoke release according to NFPA 265.

#### 2.02 VINYL WALL/ CEILING COVERING, AND TEXTILE WALL/ CEILING COVERING:

- A. Manufacturers: See
  - C. Mildew Resistance: Provide mildew-resistant, wall/ ceiling coverings in rolls from same production run and that comply with ASTM F 793.
  - D. Test Responses:
    - 1. Colorfastness to Wet and Dry Crocking: Passes AATCC 8, Grade 3, minimum.
    - 2. Colorfastness to Light: Passes AATCC 16, Test Option 1 or 3, Grade 4, minimum, at 40 hours.
- 2.03 ACCESSORIES
- A. Adhesive: Mildew-resistant, nonstaining, strippable adhesive, for use with specific wall/ ceiling covering and substrate application indicated and as recommended in writing by wall/ ceiling covering manufacturer.
  - B. Primer/Sealer: Mildew resistant, complying with requirements in and recommended in writing by primer/sealer and wall/ ceiling covering manufacturers for intended substrate.

## **PART 3 EXECUTION**

### 3.01 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair bond of wall/ ceiling covering, including dirt, oil, grease, mold, mildew, and incompatible primers.
- 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 recommended in writing by primer/sealer manufacturer and wall/ ceiling covering manufacturer.
  - 3. Painted Surfaces: Treat areas susceptible to pigment bleeding.
- D. Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper.
- E. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.
- F. Acclimatize wall/ ceiling covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

### 3.02 WALL/ CEILING COVERING INSTALLATION:

- A. Comply with wall/ ceiling covering manufacturers' written installation instructions applicable to products and applications indicated.
- B. Cut wall/ ceiling covering strips in roll number sequence. Change the roll numbers at partition breaks and corners.
- C. Install strips in same order as cut from roll.
- D. Install wall/ ceiling covering without lifted or curling edges and without visible shrinkage.
- E. Match pattern.
- F. Install seams vertical and plumb at least 6 inches from outside corners and 3 inches from inside corners unless a change of pattern or color exists at corner. Horizontal seams are not permitted.
- G. Trim edges and seams for color uniformity, pattern match, and tight closure. Butt seams without overlaps or gaps between strips.
- H. Fully bond wall covering to substrate. Remove air bubbles, wrinkles, blisters, and other defects.
- I. Remove excess adhesive at seams, perimeter edges, and adjacent surfaces.
- J. Reinstall hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

END OF SECTION 09720

## SECTION 09900 - PAINTING

### PART 1 GENERAL

#### 1.01 GENERAL TERMS AND CONDITIONS:

The General Terms and Conditions, (not specifically attached), the Special Provisions, and all other applicable documents preceding these specifications shall govern all work specified hereinafter in all DIVISIONS and SECTIONS.

#### 1.02 SUMMARY:

- A. Provide all materials, labor, equipment and tools necessary to complete painting and finishing of new and existing interior and exterior items and surfaces indicated. Paint all new work whether scheduled or not, except as otherwise indicated. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of the work and is included in this Section.
- B. "Paint" as used herein means all coating systems materials, including primers, enamels, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats, except as specifically noted herein.
- C. Paint all new and selected existing exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint these the same as adjacent similar materials or areas. If color or finish is not designated, the Contracting Officer will select these from standard colors available for the materials systems specified.

#### 1.03 SUBMITTALS:

- A. Submit in accordance with Section 01300 – SUBMITTALS.
- B. Schedule of Finishes: Submit painting finish schedule. The schedule shall indicate the spread rate which the proposed paint/coating will be applied that is necessary to achieve the final dry film thickness indicated on the Schedule of Finishes herein below.
- C. Color Samples:
  - 1. Submit color finish samples to the State. The Contracting Officer shall submit color finish samples to the Department of Defense staff for review and approval.
  - 2. Submit, after the color finish sample has been approved, one (1) set of color finish samples painted onto 8-1/2 inch x 11-inch cardboard shall be submitted. The cardboard shall be divided into four (4) horizontal strips and painted as follows:
    - a. Prime three (3) strips starting from the bottom.
    - b. 1st coat bottom two (2) strips.
    - c. 2nd coat bottom strip.

- D. Schedule of Operations: Submit, before work on the project is commenced, work schedule showing his sequence of operations and dates.
- E. Certifications: Submit asbestos-free, lead-free, zinc-chromate-free, strontium-chromate-free, cadmium-free and mercury-free paint certificates. Should the Contractor require additional copies for distribution to his suppliers and subcontractors, he shall include these additional copies along with his submittal.
- F. Manufacturer's Product Data Sheets: Submit Manufacturer's Product Data Sheets for the primers, paints, coatings, solvents, sealing and patching materials, sealants and caulking. Data sheets shall indicate thinning and mixing instructions, required film thickness (mil) and application instructions.
- G. Manufacturer's Material Safety Data Sheets: Submit Manufacturer's Material Safety Data Sheets for coatings, solvents, and other hazardous materials. Should the Contractor require additional copies for distribution to his suppliers and subcontractors, he shall include these additional copies along with his submittal.
- H. Warranty: Submit three (3) sets of written warranty as per paragraph 1.04 "WARRANTY".

1.04 WARRANTY:

- A. The Contractor shall warrant that the work performed under this section conforms to the contract requirements and is free of any defect of material or workmanship performed by the Contractor. Such warranty shall continue for a period of two (2) years from the Project Acceptance Date during which period the Contractor shall remedy at his own expense any such failure to conform or any such defect.
- B. The State shall notify the Contractor in writing within a reasonable time after discovery of any failure or defect.
- C. Should the Contractor fail to remedy any failure or defect described in Paragraph A. above within ten (10) working days after receipt of notice thereof, the State shall have the right to repair or otherwise remedy such failure or damage at the Contractor's expense.

1.05 QUALITY ASSURANCE: Applicator Qualifications: A firm and individuals experienced in applying paints and coatings similar in material, design, and extent to those indicted for this Project, whose work has resulted in applications with a record of successful in-service performance.

1.06 ANALYZING AND TESTING:

- A. All paints and their applied thickness shall be subject to testing whenever the Contracting Officer deems necessary to determine conformation to the requirements of these specifications. Should testing by a laboratory be required, the laboratory shall be selected by the State and the cost of testing shall be borne by the Contractor. However, should test results show that the paint is in compliance with this specification, the cost will be borne by the State.
- B. All rejected material shall be removed from the job site immediately. Surfaces painted with the rejected material shall be redone at no additional cost to the State.

- C. Where the required paint thickness is deficient, the affected surface(s) shall be recoated as necessary to provide the required paint thickness at no additional cost to the State.

1.07 PAINTING NOT INCLUDED: The following categories of work are not included as part of field applied paint and finish work.

- A. Pre-Finished Items: Unless otherwise indicated, do not include painting for factory-finished or installer finished items such as, but not limited to, solid phenolic, plastic laminate, high performance organic coated metal, finished mechanical and electrical equipment, including light fixtures, switchgear, and distribution cabinets, etc.
- B. Finishes Metal Surfaces: Metal surfaces of anodized aluminum, chromate plate, copper, and similar finished materials will not require finish painting, unless otherwise indicated.
- C. Labels: Do not paint over any code-required labels, such as Underwriters' Laboratories, or any equipment identification, performance rating, name, or nomenclature plates.

1.08 GENERAL REQUIREMENTS:

- A. Inspection and Approvals: The Contactor shall obtain written approval from the Contracting Officer upon completion of each phase of work (phases of work are: surface preparation and spot prime, prime, first finish coat, second finish coat) before proceeding into the next phase or work. The Contractor shall give the Contracting Officer one day (24 hours minimum) advance notice of completion of any phase of work for a work area when he deviates from the previously submitted work schedule noted under Paragraph 1.03. The Contractor shall provide necessary access to areas to be inspected.

Failure to obtain approval of any phase of work for a work area may result in redoing the operation at no cost to the State.

- B. Right of Rejection: The Contracting Officer shall have the right to reject all work which is not in compliance with the plans and specifications. Rejected work shall be redone at no cost to the State.

In addition, the Contracting Officer shall have the right to require the immediate removal of any paint applicator who demonstrates negligence, lack of competence or repeated non-compliance with the contract requirements.

1.09 DELIVERY: Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.

1.10 SPECIAL REQUIREMENTS:

- A. Codes: The Contractor shall comply with the State OSHL (Occupational Safety and Health Law) and all pollution control regulations of the State Department of Health.
- B. Protection:



1. Persons:
    - a. The Contractor shall take all necessary precautions to protect public pedestrians including tenants from injury.
    - b. The Contractor shall provide, erect and maintain safety barricades around scaffolds, hoists and wherever Contractor's operations create hazardous conditions in order to properly protect the public and tenants.
  2. Completed Work: The Contractor shall provide all necessary protection for wet paint surfaces.
  3. Protective Covering and Enclosures: The Contractor shall provide and install protective covering over furniture, equipment, floor and other areas that are not scheduled for treatment. Protective covering shall be clean sanitary drop cloth or plastic sheets. Paint applied to surfaces not scheduled for treatment shall be completely removed and surfaces shall be returned to their original condition.
  4. Safeguarding of Property: The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the State and other individuals in the vicinity of his work area during the execution of this Contract.
  5. The Contractor shall be responsible for and make good on any and all damages and for losses to work or property caused by his or his employee's negligence. Where the damaged property cannot be cleaned and restored to its original condition (i.e. prior to being damaged) it shall be replaced with a new product of equal quality. No proration or use of "used" products will be permitted.
  6. Fire Safety: The Contractor shall direct his employees not to smoke in the vicinity and exercise precautions against fire at all times. Waste rags, plastic (polyester sheets), empty cans, etc. shall be removed from the site at the end of each day.
- C. Storage Area for Materials:
1. No paint materials, empty cans, paint brushes and rollers may be stored in the building(s). They shall be stored in separate storage facilities away from the building(s).
  2. The Contractor may furnish a job site storage facility. Such facility shall comply with the requirements of the local Fire Department. The storage area shall be kept clean and the facility shall be locked when not in use or when no visual supervision is possible.
- D. Sequence of Operations: The sequence of operations shall divide the surfaces into work areas and present a schedule for:
1. Surface preparation.

2. Prime coat.
3. First finish coat.
4. Second finish coat.

1.11 AREAS (SURFACES/STRUCTURES) TO BE PAINTED:

A. Interior: All new and existing interior painted surfaces as indicated shall be painted unless otherwise indicated on the plans and/or specifically deleted in these specifications. Interior surfaces to be painted shall be those surfaces not exposed to weather in an area enclosed by four (4) walls. Also, a surface shall be considered an interior surface and painted as such whenever the color is that of the existing interior color. Extent of treatment for special items is as follows:

1. Stainless steel pipes, G.I. pipes and conduits, electrical boxes, and similar appurtenances.
2. Existing and New Concrete Masonry Unit and cement plaster walls.
3. All areas damaged or exposed during construction.
4. All stainless steel doors and frames.

B. Exterior: All new and existing exterior painted surfaces indicated shall be painted unless otherwise indicated on the plans and/or specifically deleted in these specifications. Exterior surfaces to be painted shall be any surface exposed to weather in an area not enclosed by four (4) walls and a roof. Also, a surface shall be considered and painted as an exterior surface whenever the color is that of the existing exterior color. The extent of treatment for special items is as follows:

1. Gutter, flashing, brackets, etc.
2. Stainless steel pipes, G.I. pipes and conduits, electrical boxes, and similar appurtenances.
3. Metal Security Grilles and frames including anchoring plates and bolt heads.
4. All Exterior Concrete and Concrete Masonry walls.
5. All exposed concrete soffits, framing, etc.
6. All stainless steel doors and frames.

1.12 OTHER INCIDENTAL WORK TO BE PERFORMED BY CONTRACTOR:

A. Interior: Unless otherwise specified, the Contractor is responsible for protecting all the fixtures, accessories and flooring from over-painting and drips

The Contractor shall protect these items and make good any damage to them at no cost to the State.

- B. Areas Inaccessible to Normal Painting: The Contractor shall remove and reinstall items as required to paint area(s) where indicated or required.

1.13 COMPATIBILITY OF PAINTING SYSTEMS AND SUBSTRATES:

- A. The Contractor shall ensure that painting systems specified are compatible with existing painted surfaces. Alkyd paints shall not be used directly over bare cementitious surfaces. Latex paints shall not be applied directly over alkyd paints without proper surface conditioner and approval by Contracting Officer.
- B. It is the Contractors' responsibility to ensure that specified painting systems are compatible with existing painted surfaces. Should there be any discrepancy between specified and existing paint systems, the Contractor shall notify the Contracting Officer in writing for alternate recommendations and/or submit a revised paint system for approval by the Contracting Officer.

**PART 2 PRODUCTS**

2.01 MATERIALS:

- A. Asbestos Prohibition: All paints shall be asbestos free.
- B. Lead Prohibition: All paints shall be lead-free.
- C. Mercury Prohibition: All paint shall be mercury-free.
- D. Chromate Prohibition: All paint shall be free of zinc-chromate and/or strontium-chromate.
- E. Cadmium Prohibition: All paint shall be cadmium-free.
- F. Material shall be equal in quality to that specified under the Schedule of finishes and any given finish shall be as labeled by one manufacturer.
- G. All materials shall be delivered to the job site in undamaged original containers bearing the manufacturer's label and shall be stored in such a manner as to prevent damage. All rejected materials shall be removed from the job site immediately.
- H. Paints shall be as manufactured by Benjamin Moore or approved substitute.
- I. Thinning of paint shall be done using material recommended by the manufacturer. Mix proprietary products according to manufacturer's printed specifications. Compound thinner, mineral oil, kerosene, refined linseed oil, or gasoline shall not be used for thinning.
- J. Except for metal primers all paint shall contain the maximum amount of mildewcide per gallon of paint permitted by the mildewcide manufacturer without adversely affecting the quality of the paint.
- K. The supplier shall submit a signed certificate indicating the amounts of mildewcide added by both the paint manufacturer and the paint supplier.

- L. Provide all patching and repair materials compatible with paint finishes and substrates. Use weather resistant materials for exterior surfaces and surfaces exposed to moisture.
- M. Provide all other materials not specified but required to achieve the finishes specified.

### **PART 3 EXECUTION:**

#### **3.01 SURFACE PREPARATION OF EXISTING SURFACES:**

##### **A. General:**

1. Mildew Removal: Remove all mildew and sterilize the surface to be painted. Apply a commercial mildew treatment solution such as Purex, Jomax Remover or approved substitute in strict accordance with the manufacturer's recommendations and instructions. Following treatment, the surface shall be cleaned with potable water and allowed to thoroughly dry before priming, painting or the applying of sealing and caulking compounds.
2. Cracks and openings found at joints and where different materials abut each other shall be sealed with a caulking compound compatible with the substrate and primer/paint. The caulking shall be applied and allowed to set in accordance with the manufacturer's recommendations and instructions.

##### **B. Wood and Concrete Masonry Units to be Repainted:**

1. Remove from surfaces to be repainted all foreign matter such as nails, screws, staples, tape and gum.
2. Remove all loose, blistered, scaled, crazed or chalky finish to an existing tight and firm finish.
3. Remove all mildew as noted in paragraph entitled "Mildew Removal" hereinabove.
4. Where the existing finish remains tight and firm, prepare the surface by lightly sanding. Where paint has been removed, sand the edges of scarred areas to a smooth feathered edge.
5. Wash all surfaces with a solution of T.S.P. and water or other appropriate solution to remove any accumulated film of wax, oil, grease, smoke, dust, dirt, chalking or other foreign matter which would impair the bond of, or bleed through the new paint finish. After washing, rinse with potable water and allow to thoroughly dry for a minimum of twenty-four (24) hours.
6. Seal all cracks hairline to 1/8-inch in width with concrete patching compound. All cracks over 1/8-inch in width or holes 1/4-inch diameter or greater shall be sealed with latex modified or epoxy modified reinforced patching compound before paint application. All patching shall be done in accordance with the manufacturer's recommendations and instructions.
7. Spot prime areas where bare surface, seal or patch material is exposed with the specified primer and feather out onto adjacent paint.

8. Follow up over with primer and finish coat over entire surface.
9. Remove peeling paint, do not try to re-adhere sheets of delaminating coatings.

C. Ferrous Metal and Galvanized Metal to be repainted:

1. Remove from surfaces to be repainted all foreign matter such as tape and gum.
2. Remove all loose, blistered, scaled, crazed or chalky paint finish to an existing tight and firm finish.
3. Remove all mildew as noted in the paragraph entitled "Mildew Removal" hereinabove.
4. Remove all rust, loose mill scale and loose and blistering paint by power tool chipping, de-scaling, sanding, wire brushing and grinding down to bare metal (only tightly adhering surface rust, mill scale and paint which cannot be removed with a dull putty knife remaining) in accordance with Steel Structures Painting Council (SSPC) Standard SP3. Care shall be taken so that the surface is not burnished during cleaning.
5. Where the existing finish remains clean, tight and firm, prepare the surface by sanding or the use of liquid sandpaper. Where paint has been removed, sand scarred areas to a smooth feathered edge.
6. Completely wipe all surfaces with mineral spirits or other appropriate solution as required to remove accumulated film of wax, oil, grease, smoke, dust, dirt, chalky or other foreign matter which would impair the bond of, or bleed through the new finish.
7. Allow the surfaces to thoroughly dry and immediately spot prime bare metal areas with the specified primer and feather out onto adjacent paint.
8. Follow up with primer and finish coats over entire surface.

3.02 SURFACE PREPARATION OF NEW SURFACES:

- A. The Painting Contractor shall be wholly responsible for the finish of his work and shall not commence any part of it until surfaces are in proper condition. If Painting Contractor considers any surfaces unsuitable for proper finish of his work, he shall notify the Contracting Officer of this fact in writing and he shall not apply any material until the unsuitable surfaces have been made satisfactory. Major defects shall be restored by the proper trades. In general, follow the manufacturer's direction for surface preparation for the paint to be applied.
- B. Unprimed galvanized metal shall be washed with a solution of chemical phosphoric metal etch and allowed to dry.
- C. All metal surfaces shall be made clean and free of any defects or condition that may produce unsatisfactory finish.

### 3.03 PAINT APPLICATION:

#### A. General:

1. All work shall be done in a workmanlike manner by skilled and experienced mechanics and shall conform to the best painting practices.
2. All materials shall be applied in strict accordance with the manufacturer's specifications, including spread rates, and the finished surfaces shall be free from runs, sags, drops, ridges, waves, laps, streaks, brush marks and variations in color, texture and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce a film of uniform thickness. No paint shall be applied until the preceding coat is thoroughly dry and approved.

Completely paint entire surface for each sequence of operation; prime coat, finish first coat, and second finish coat, unless otherwise indicated on the paint schedule hereinafter.

3. No exterior painting of unprotected surfaces shall be done in rainy, damp weather. Coats shall be applied only to surfaces that are thoroughly dry and only under such combination of humidity and temperature that will ensure proper paint application.
4. Any mixing shall be done outside the building.

#### B. Application: Paint application shall be by brush and roller.

#### C. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors shall be in accordance with the schedule on the drawings. Where a color is not indicated, the color shall be selected by the Contracting Officer.

#### D. Finish Film Thickness: Apply primer, intermediate, and finish coats in dry film thickness, as scheduled unless recommended otherwise in writing by the manufacturer, for each coat and in accordance with the manufacturer's recommendations. Verify mil thickness by use of a suitable wet film gauge. Use a Tooke or other dry film gauge to test for total dry film thickness.

### 3.04 MISCELLANEOUS:

#### A. Installation of Removed Items: After completion of final paint coat, removed items shall be reinstalled.

#### B. Clean-up:

1. During the progress of the work, all debris, empty crates, waste, drippings, etc. shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.
2. Upon completion of the work, staging, scaffolding, containers and all other debris shall be removed from the site. All paint, shellac, oil, or stains splashed

or spilled upon adjacent surfaces not requiring treatment (hardware, fixture, floor, glass) shall be removed and the entire job left clean and acceptable.

### 3.05 SCHEDULE OF FINISHES

- A. The Schedule of Finishes is made for the convenience of the Contractor and indicates the types and quality of finishes to be applied to the surfaces.
- B. Any existing painted surfaces not specifically noted in the finish schedule shall be finished to match adjoining work.
- C. Paint schedule is based on the products of Benjamin Moore catalog, unless otherwise called for and are so named to establish quality and standard of materials. Paint materials equal to those mentioned may be used provided they are acceptable to the Contracting Officer.
- D. The painting schedule shall apply to new and previously painted surfaces of designated materials, unless specified otherwise, in conformity with instructions of the paint products used. Test for Alkyd or Latex paint when painting over previously painted surfaces.
- E. The following schedule represents the general character of the paint systems necessary to complete the work. Provide additional comparable systems and sheens as required. At the option of the Contracting Officer, paint sheens may be revised at no additional cost to the State.
- F. All surfaces shall be treated as exterior surfaces for this project.

### 3.06 PAINT SCHEDULE:

- A. Exterior Primer:
  - 1. Ferrous Metal:  
4160 DEVGUARD Multi-Purpose Tank & Structural Primer  
2.0 mils DFT @ 400 sf/gal.  
or approved substitute.
  - 2. Galvanized Metal:  
4020 DEVFLEX Waterborne DTM Primer & Flat Finish  
2.2 mils DFT @ 320 sf/gal.  
or approved substitute.
  - 3. Concrete or Wood:  
6001 HYDROSEALER Primer-Sealer  
1.5 mils DFT @ 375 sf/gal.  
or approved substitute.
  - 4. Concrete Masonry:  
7 OXFIL Interior/Exterior Heavy Duty Acrylic Block Filler  
7-14.5 mils DFT @ 50-75 sf/gal.  
or approved substitute.

5. Stainless Steel:  
205 DEVRAN University Epoxy Primer  
2.0 mils DFT @ 465 sf/gal.  
or approved substitute.
  6. Existing Concrete or Masonry Units:
    - a. With existing solvent-based finish:  
4030 TRU-GLAZE WB Waterborne  
Epoxy Primer 2.0 mils DFT @ 375 sf/gal  
or approved substitute.
    - b. With existing latex-based finish:  
3030 Concrete Coating Bond-Prep Bonding Primer  
1.5 mils DFT @ 375 sf/gal.  
or approved substitute.
  7. Existing Painted Galvanized Metal or Ferrous Metal:
    - a. With existing solvent-based finish:  
4160 DEVGUARD Multi-Purpose Tank & Structural Primer  
2.0 mils DFT @ 320 sf/gal.  
or approved substitute.
    - b. With existing latex-based finish:  
4020 DEVEFLEX Waterborne DTM Primer/Finish  
2.2 mils DFT @ 320 sf/gal.  
or approved substitute.
  8. Fiberglass Reinforced Panel  
FRESH START K046 Primer  
1.4 mils DFT @ 400 sf/gal  
or approved substitute.
  9. Existing Painted Wood:
    - a. With existing solvent-based finish:  
2110N Stain Stomper Exterior Primer-Sealer  
2.0 mils DFT @ 500 sf/gal.  
or approved substitute.
    - b. With existing latex-based finish:  
6001 HYDROSEALER Primer-Sealer  
1.5 mils DFT @ 375 sf/gal.  
or approved substitute.
- B. Exterior Finish:
1. Semi-Gloss Two coats:  
N403 Regal Select Exterior Paint – High Build Soft Gloss Finish



2.0 mils DFT @ 325 sf/gal. per coat or approved substitute.

C. Interior Primer:

1. Ferrous Metal:  
Corotech V131 Low VOC Universal Metal Primer  
2.1 mils DFT @ 458 sf/gal.  
or approved substitute.
2. Galvanized Metal:  
P04 Super Spec HP Acrylic Metal Primer  
1.7 mils DFT @ 406 sf/gal.  
or approved substitute.
3. Concrete or Wood:  
6001 HYDROSEALER Primer-Sealer  
1.5 mils DFT @ 375 sf/gal.  
or approved substitute.
4. Concrete Masonry:  
8 OXFIL Interior/Exterior Heavy Duty Acrylic Block Filler  
7-14.5 mils DFT @ 50-75 sf/gal.  
or approved substitute.
5. Stainless Steel:  
205 DEVRAN University Epoxy Primer  
2.0 mils DFT @ 465 sf/gal.  
or approved substitute.
6. Existing Concrete or Masonry Units:
  - a. With existing solvent-based finish:  
CLF 29/30 Waterborne Epoxy Masonry Primer  
2.0 mils DFT @ 315 sf/gal  
or approved substitute.
  - b. With existing latex-based finish:  
N534 Ultra Spec 500 Interior Latex Primer  
1.8 mils DFT @ 267 sf/gal.  
or approved substitute.
7. Existing Painted Galvanized Metal or Ferrous Metal:
  - a. With existing solvent-based finish:  
Corotech V131 Low VOC Universal Metal Primer  
2.1 mils DFT @ 458 sf/gal.  
or approved substitute.
  - b. With existing latex-based finish:  
P04 Super Spec HP Acrylic Metal Primer  
1.7 mils DFT @ 406 sf/gal.

or approved substitute.

8. Fiberglass Reinforced Panel  
FRESH START K046 Primer  
1.4 mils DFT @ 400 sf/gal  
or approved substitute.
9. Existing Painted Wood:
  - a. With existing solvent-based finish:  
INSL-X Prime Lock Plus Primer Sealer Stain Killer PS-800  
2.6 mils DFT @ 346 sf/gal.  
or approved substitute.
  - b. With existing latex-based finish:  
N023 Fresh Start Multi-Purpose Latex Primer  
1.2 mils DFT @ 425 sf/gal.  
or approved substitute.

D. Interior Finish:

1. Semi-Gloss Two coats:  
551 Regal Select Premium Interior Paint Semi-Gloss Finish  
1.5 mils DFT @ 412 sf/gal. per coat  
or approved substitute.

3.07 PAINT COLOR SCHEDULE:

- A. Gypsum wallboard ceilings and soffits to be painted to match:
  1. ICI 30GY 88/014 White on White
- B. Concrete ceiling at Administration Building Vault to be painted to match:
  1. ICI 50YY 83/029 Natural White
- C. Exterior DEFS soffits to be colored to match:
  1. ICI CM/D1160 Mohave Sand

END OF SECTION 09900

## **SECTION 21 13 13 - WET PIPE SPRINKLER SYSTEM**

### **PART 1 GENERAL**

#### **1.01 GENERAL CONDITIONS**

- A. As specified in Section 00700.

#### **1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS**

- A. Section 09900 - Painting: Painting of all pipes, bracing, hangers, and valves.

#### **1.03 PAYMENT PROCEDURES**

- A. Permits, Tests, and Inspections: Apply, secure, and pay for all required permits, fees, licenses, tests, inspections, and royalties necessary to accomplish the work. Schedule and coordinate required tests and inspections.

#### **1.04 SCOPE**

- A. The project work scope includes the complete replacement of five (5) existing wet pipe fire sprinkler systems, and the installation of one (1) automatic air vent onto each new fire sprinkler distribution piping system with a nitrogen inerting system at the following buildings:
  - 1. B711 Administration
  - 2. B711 Classroom
  - 3. B712 Mess Hall
  - 4. B713 Auditorium
  - 5. B714 Billets A, including the physical fitness and laundry area
- B. For all buildings, provide a continuous fire watch as required in the construction drawings and in accordance with the Honolulu Fire Department.
- C. The nitrogen inerting system is a risk mitigation component used to limit air bubbles from becoming entrapped in the existing interior sprinkler distribution piping system. Nitrogen will be introduced into the empty fire sprinkler riser and piping system prior to being filled with water.
- D. New concrete pads will be provided for the new, exterior fire sprinkler risers for each building.
- E. Each system shall be provided with earthquake protection and shall include all materials, accessories, and equipment necessary to provide each system complete and ready for use. Design and install each system to give full consideration to blind spaces, piping, electrical equipment, ductwork, and all other construction and equipment to afford complete coverage in accordance with detailed drawings to be submitted for approval. Devices and equipment for fire protection service shall be listed by the Underwriters' Laboratories, Inc. or approved by Factory Mutual System. In the NFPA publications referred to herein, the advisory provisions shall be considered to be mandatory, as though the word "shall" had been substituted for "should" wherever it appears; reference to the "authority having jurisdiction" shall be interpreted to mean the Hawaii Insurance Bureau and the Building and Fire Departments. The work shall begin at the point indicated.

#### **1.05 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only.

1. International Building Code (IBC), 2018 Edition with State Amendments
2. International Building Code (IBC), 2012 Edition with City and County of Honolulu Amendments
3. NFPA 1, Hawaii State Fire Code, 2018 Edition with City and County of Honolulu Amendments
4. American Society for Testing and Materials (ASTM) Publications
  - a. A 53 95 Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded, and Seamless
5. American Water Works (AWWA) Publications
  - a. C104 90 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
  - b. C104/A21.4 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
  - c. C110/A21.10 Ductile-Iron and Gray-Iron Fittings for Water
  - d. C111/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
  - e. C151 86 Ductile-Iron Pipe, Centrifugally Cast
  - f. C601 86 Disinfecting Water Mains
6. American Welding Society, Inc. (AWS)
  - a. A 5.8 81 Brazing Filler Metal
7. Copper Development Association Standards (CDA)
  - a. CDA 1.0 Flux
8. Factory Mutual (FM) Publication
  - a. Approval Guide, 2021 Edition
9. Master Painters Institute (MPI)
  - a. MPI 9 2016 Alkyd, Exterior Gloss (MPI Gloss Level 6)
  - b. MPI 23 2015 Primer, Metal, Surface Tolerant
  - c. MPI 94 2016 Alkyd, Exterior, Semi-Gloss (MPI Gloss Level 5)
10. National Fire Protection Association (NFPA) Publications
  - a. NFPA 13 2016 Installation of Sprinkler Systems
  - b. NFPA 24 2016 Installation of Private Fire Service Mains and Their Appurtenances
  - c. NFPA 25 2017 Inspection, Testing, & Maintenance of Water Based Fire Protection Systems
  - d. NFPA 70 2017 National Electrical Code

e. NFPA 72 2010 National Fire Alarm Code

11. Society for Protective Coatings (SSPC)

a. SSPC SP2 (2018) Hand Tool Cleaning

b. SSPC SP3 (2018) Power Tool Cleaning

12. Underwriters' Laboratories, Inc. (UL) Publications

1.06 QUALIFIED FIRE PROTECTION ENGINEER (QFPE)

A. The Qualified Fire Protection Engineer (QFPE) for this project is employed by Coffman Engineers, Inc. Honolulu Office who has taken and passed the written examination administered by the National Council of Examiners for Engineering and Surveyors (NCEES) as required by UFC 3-600-01. The QFPE assigned to this project is Robert T. Bigtas, P.E.. Mr. Bigtas has worked for Coffman/S.S. Dannaway Associates, Inc. since May of 1992 and has taken the written fire protection engineering examination administered by NCEES in October 1997 and received notice of passing in February 1998 as required by UFC 3-600-01. Mr. Bigtas has more than 27-years of fire protection engineering experience and is registered as an FPE in California, Washington, Guam and Commonwealth of Northern Mariana Islands as well as a registered ME in Hawaii, Guam and Commonwealth of Northern Mariana Islands. Since 2015 Mr. Bigtas has completed more than 500 projects for DoD agencies including NAVFAC, USACE and USAF.

1.07 SUBMITTALS

A. Submit under provisions of Section 01330 – SUBMITTAL PROCEDURES. Partial submittals will not be acceptable. Submit for approval one (1) complete sets of submittals as described below in electronic format, Portable Document Format (PDF). Annotate descriptive data to show the specific model, type, and size of each item the Contractor proposes to furnish. Prepare working drawings on sheets not smaller than 24 by 36 inches, in accordance with the requirements for "Working Drawings (Plans) as specified in NFPA 13 and include data essential to the proper installation of each system. Do not commence work until the design of each system and the various components have been approved. The Contracting Officer will review and approve all submittals. Before work commences, submit for approval complete sets of working drawings and calculations for each sprinkler system. Working drawings and calculations must be stamped by a Hawaii licensed professional mechanical engineer.

1. Preconstruction Submittals:

Within 36 days of contract award but no less than 14 days prior to commencing work on site, the prime contractor must submit the following for review and approval. Shop Drawings, Product Data, and Design Data submittals received prior to the review and approval of the qualifications will be returned Disapproved Without Review.

a. Sprinkler System Designer

b. Sprinkler System Installer

2. Manufacturer's Data

a. Sprinklers

b. Spare sprinkler cabinet and sprinkler stoppers

c. Riser check valve

- d. Water flow switches
  - e. Valve tamper switches
  - f. Pipe, fittings, and mechanical couplings
  - g. Pipe hangers and supports
  - h. Earthquake sway bracing and seismic restraint
  - i. Valves including gate, check, relief
  - j. Fire department connection
  - k. Air Vent
  - l. Wet pipe nitrogen inerting system
  - m. Paint for riser piping system
3. Shop (Working) Drawings
- One copy of the shop drawings, no later than 28 days prior to the start of system installation. Working drawings conforming to the requirements prescribed in NFPA 13 and must be the same size as the Contract Drawings.
- a. Sprinkler system layout conforming to NFPA 13.
4. Design Data
- a. Sprinkler system hydraulic calculations
  - b. Seismic bracing calculations
5. Certificates of Compliance
- a. Contractor's material and test certificate per NFPA 13
  - b. Pipe and Fittings
6. Guaranty
- a. The one (1) year guaranty shall start at the end of thirty (30) consecutive days of trouble-free operation after certification by the Fire Department and acceptance by the Owner whichever date is the latest.
7. Operation and Maintenance Manuals: Provide five (5) bound copies of the Operations and Maintenance Manuals in three (3) hole binders with hard covers. Submit one (1) electronic copy in portable document format (PDF). Electronic copy shall be exact copy of the hard copy. The manuals shall be submitted to the Contracting Officer a minimum of two (2) weeks prior to the final test and shall be approved by the Contracting Officer and consultant.
- a. Water Flow Switches
  - b. Valve Tamper Switch
  - c. Wet pipe nitrogen inerting system
8. Test Plan: A minimum of fifteen (15) days prior to the Preliminary Testing, the Contractor shall submit a "Test Plan" which shall describe how the system will be tested. This shall include a step-by-step description of all tests and shall indicate the type and location of test apparatus to be employed. Tests shall not be conducted until the test plan is approved by the Contracting Officer and the consultant.

9. As-Built Drawings: Submit in accordance with Division 1.

1.08 QUALITY ASSURANCE

- A. Qualifications of Installer: Prior to installation, submit data for approval by the Contracting Officer, showing that the Contractor is a licensed fire protection contractor (C-20) and has successfully installed automatic fire extinguishing sprinkler systems of the same type and design as specified herein, or has a firm contractual agreement with a subcontractor having such required licensed experience. The data shall include the names and locations of at least two installations where the Contractor, or the subcontractor referred to above, has installed such systems. The Contractor shall indicate the type and design of each system and certify that each system has performed satisfactorily in the manner intended for a period of not less than 18 months.
- B. Qualifications of System Technician: Installation drawings, shop drawing and as-built drawings shall be prepared, by or under the supervision of, an individual who is experienced with the types of works specified herein and is currently certified by the National Institute for Certification in Engineering Technologies (NICET) as an engineering technician with minimum Level-III certification in the Fire Protection/Automatic Sprinkler System program. Contractor shall submit data for approval showing the name and certification of all involved individuals with such qualifications at or prior to submittal of drawings.
- C. Requirements for Fire Protection Service: Equipment and material shall have been listed for fire protection service by Underwriters Laboratories, Inc. or approved by the Factory Mutual System or listed by other nationally recognized testing laboratories. The omission of these terms under the description of any item of equipment described shall not be construed as waiving this requirement.
- D. Modifications of References: In NFPA publications referred to herein, consider advisory provisions to be mandatory, as though the word "shall" had been substituted for "should" wherever it appears. Interpret reference to "authority having jurisdiction" to mean the County Building and Fire Departments.
- E. Sprinkler System Designer: The sprinkler system designer must be certified as a Level III Technician by National Institute for Certification in Engineering Technologies (NICET) in the Water-Based Systems Layout subfield Fire Protection Engineering Technology in accordance with NICET 1014-7.
- F. Sprinkler System Installer: The sprinkler system installer must be regularly engaged in the installation of the type and complexity of system specified in the contract documents and must have served in a similar capacity for at least three systems that have performed in the manner intended for a period of not less than 6 months.

1.09 GUARANTY AND CERTIFICATE

- A. The Contractor shall guaranty and certify in writing all work in this section for period of two (2) years. Should any equipment or material fail due to defective equipment, material or workmanship within this period, the Contractor shall replace the item at no cost to the State.
- B. The two (2) year guaranty shall start at the end of thirty (30) consecutive days of trouble-free operation after certification by the Fire Department and acceptance by the State whichever date is the latest.

1.10 INSPECTION, MAINTENANCE, AND TESTING SERVICE AGREEMENT

- A. The Contractor shall include two (2) year inspection, maintenance, and testing service agreement in the bid. The two (2) year period shall begin at the end of thirty (30) consecutive days of trouble-free operation after certification by the Fire Department and

acceptance by the State, whichever is the latest. The agreement shall cover all labor, parts, insurance taxes, fees, and other incidental costs to inspect and test the system in accordance with NFPA 25 and the Hawaii State Fire Code. Inspection and testing of the system shall be conducted based on the frequencies in NFPA 25.

## **PART 2 PRODUCTS**

### **2.01 DESIGN OF SPRINKLER SYSTEM**

- A. Sprinkler System: Design of wet pipe fire extinguishing sprinkler system shall be by hydraulic calculations for uniform distribution of water over the design area and shall conform to NFPA 13 and to the requirements as specified herein.
  - 1. Distribution of Water: Distribution shall be essentially uniform throughout the area in which it is assumed the sprinkler heads will open.
  - 2. Density of Application of Water: Size pipe to provide the specified density when the system is discharging the specified total maximum required flow. Application to horizontal surfaces below the sprinklers shall be as indicated on the drawings.
  - 3. Sprinkler Discharge Area: Area shall be the hydraulically most remote area as defined by NFPA 13. The design area shall be as indicated on the drawings.
  - 4. Hose Allowances: Hydraulic calculations shall include the allowance as indicated on the drawings.
  - 5. Friction Losses: Calculate losses in pipe in accordance with the Hazen-Williams formula with 'C' value of 120 for steel pipe, 140 for buried cement-lined ductile-iron pipe and 150 for copper tubing and CPVC tubing.
  - 6. Location of Sprinkler Heads: Heads in relation to the ceiling and walls and the spacing of sprinklers shall not exceed that permitted by NFPA 13. Sprinklers in acoustical tile ceilings will be centered in the tile.
  - 7. Water Supply: Base hydraulic calculations on the water supply as indicated on the drawings.

### **2.02 EQUIPMENT**

- A. Sprinkler Heads: Release element of each head shall be as indicated on the drawings or higher as suitable for the individual location where it is installed. Provide quick response pendent sprinklers below finished ceilings or brass quick response upright sprinkler in areas with no finished ceiling. Sprinklers under finished ceilings shall be white finish. Provide Electroless Nickel Plated sprinklers in areas exposed to exterior conditions. Provide standard response sprinklers in the mechanical and electrical rooms.
- B. Cabinet: Provide extra sprinkler heads and sprinkler head wrench and three of the proper types of sprinkler stoppers in a metal cabinet adjacent to the sprinkler riser. The number and types of extra sprinkler heads shall be as specified in Fire Code Article 13.3.3.5.1.5.
- C. Sprinkler Supervisory Devices: Connect the following sprinkler supervisory devices to the existing building fire alarm system:
  - 1. Water Flow Switches: UL listed, or FM approved.
  - 2. Valve Tamper Switch: Provide each control valve with a listed or approved tamper switch for the automatic transmittal of a trouble signal. Valve tamper switches which are integral to the control valve will be acceptable.



## 2.03 ABOVE GROUND PIPING SYSTEMS

- A. Inspect, test, and approve piping before burying, covering, or concealing. Provide fittings for changes in direction of piping and for all connections. Make changes in piping sizes through reducing pipe fittings; the use of bushings will not be permitted. Welding shall be performed in the shop; field welding will not be permitted.
- B. Pipe and Fittings
  - 1. Provide in accordance with NFPA 13 except that copper pipe must not be permitted. All piping and fittings shall be black steel ASTM A53/A53M. Pipe sizes less than 2.5 inches shall be Schedule 40; black steel all other piping shall be minimum Schedule 10 black steel for piping on the wet pipe system. All piping in finished areas must be concealed. All piping and fittings exposed to exterior conditions shall be hot dipped galvanized steel.
  - 2. Fittings into which sprinkler heads, sprinkler head riser nipples, or drop nipples are threaded shall be welded, threaded, or grooved-end type. Use of plain-end fittings with mechanical couplings which utilize steel gripping devices to bite into pipe when pressure is applied will not be permitted. "Mechanical T", "Clamp T" or any other bolted branch outlet tees will not be permitted. Rubber gasketed grooved-end pipe and fittings with mechanical couplings shall be permitted in pipe sizes 1.25 inches and larger; fittings shall be UL listed or FM approved for use in sprinkler systems.
  - 3. Provide an earthquake sway brace within 24 inches of each flexible coupling which is installed in horizontal piping for purposes other than earthquake protection.
- C. Pipe Hangers, Supports, and Earthquake Sway Bracing: Provide in accordance NFPA 13. Provide retaining straps on beam clamps. Provide branch line seismic restraint.
- D. Valves: Provide valves as required by NFPA 13 and of types approved for fire service. Gate valves shall open by counterclockwise rotation. Check valves shall be clear opening swing check type. Provide OS&Y valves as indicated.
- E. Relief Valve: Provide an approved relief valve on gridded systems in accordance with NFPA 13.
- F. Identification Signs: Attach properly lettered approved metal signs conforming to NFPA 13 to each valve and alarm device. Permanently affix hydraulic design data nameplates to the riser of each system.
- G. Inspector's Test Connection: Provide test connections about 6 feet above the floor for each sprinkler system or portion of each sprinkler system equipped with an alarm device.
- H. Main and Auxiliary Drains: Provide drain piping to discharge at safe points outside each building or to sight cones attached to drains of adequate size to readily receive the full flow from each drain under maximum pressure. Provide auxiliary drains required by NFPA 13. Provide a splash block below each exterior drain discharge.
- I. Pipe Penetrations of Fire Rated Construction: Provide UL listed fire stopping design.
- J. Escutcheon Plates: Provide one piece or split hinge type metal plates for piping passing through floors, walls, and ceilings in exposed areas. Provide chromium-plated finish on plates in finished areas. Provide paint finish on plates in unfinished areas. Securely anchor plates in place with setscrews or other approved positive means.
- K. Air Venting Valve: Provide automatic air venting valve on each system. Provide the valve at the high point of the system. UL listed/PM approved automatic air vent

assembly, minimum working pressure 175 psi. Provide with Y-strainer and ball valve. Air vent must be piped to drain at an approved location.

- L. Fire Department Connection: Provide connection approximately 3 feet above finish grade, of the approved polished brass four-way type with 2.5-inch National Standard female hose threads with plug and chain. The function of the connection shall be clearly indicated as AUTO SPRINKLER. Fire department connections shall be located as indicated on the drawings.
- M. Nitrogen Inerting System: Provide a wet pipe nitrogen inerting injection manifold, nitrogen cylinders, and all other applicable appurtenances for each fire sprinkler riser.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Equipment, material, installation, and workmanship: Provide in accordance with NFPA 13 except as modified herein. Install piping straight and true to bear evenly on hangers. Keep the interior of new and existing piping affected by the Contractor's operations thoroughly cleaned of water and foreign matter. Keep piping systems clean during installation by means of plugs or other approved methods. When work is not in progress, securely close open ends of piping and fittings so that water and foreign matter will not enter the pipes or fittings. Inspect piping before placing into position. Inspect, test, and approve piping before burying, covering, or concealing. Provide listed fittings for changes in direction of piping and for all connections including branch takeoffs from mains and reductions in pipe sizes. Make changes in piping sizes through tapered reducing pipe fittings; do not use bushings. Install seismic restraints on piping. Comply with NFPA 13 requirements for seismic-restraint device materials and installation.
- B. Locations and Arrangements: Drawings plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.
  - 1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.

Coordinate layout and installation of fire riser and drain line piping with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.
- C. Verifying actual field conditions: Before commencing work, examine all adjoining work on which the contractor's work that is dependent for perfect workmanship according to the intent of this specification section, and report to the Contracting Officer's Representative a condition that prevents performance of first-class work. No "waiver of responsibility" for incomplete, inadequate, or defective adjoining work will be considered unless notice has been filed before submittal of a proposal.
- D. Installation: The installation must be in accordance with the applicable provisions of NFPA 13 and publications referenced therein.
  - 1. Piping offsets, fittings, and other accessories required must be furnished to provide a complete installation and to eliminate interference with other construction.
  - 2. Wherever the contractor's work interconnects with work of other trades the Contractor must coordinate with other Contractors to ensure all Contractors have the

information necessary so that they may properly install all necessary connections and equipment. Identify all work items needing access (dampers and similar equipment) that are concealed above hung ceilings by permanent color-coded pins/tabs in the ceiling directly below the item.

3. Provide required supports and hangers for piping, conduit, and equipment so that loading will not exceed allowable loadings of structure. Submittal of a bid must be a deemed representation that the contractor submitting such bid has ascertained allowable loadings and has included in his estimates the costs associated in furnishing required supports.
- E. Waste Removal: At the conclusion of each day's work, clean up and stockpile on site all waste, debris, and trash which may have accumulated during the day as a result of work by the contractor and of his presence on the job. Sidewalks and streets adjoining the property must be kept broom clean and free of waste, debris, trash, and obstructions caused by work of the contractor, which will affect the condition and safety of streets, walks, utilities, and property.
  - F. Aboveground Piping Installation: The methods of fabrication and installation of the aboveground piping must fully comply with the requirements and recommended practices of NFPA 13 and this specification section.
  - G. Protection of Piping Against Earthquake Damage: Seismic restraint is required.
  - H. Pipe Hangers (Supports): Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
  - I. Pipe Penetrations: Install sleeves for piping penetrations of walls, ceilings, and floors. Install escutcheons for piping penetrations of walls, ceilings, and floors.
  - J. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
  - K. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.
  - L. Install automatic air vent with associated drain for system drainage.
  - M. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.
  - N. Install pressure gauges on the fire riser. Include pressure gauges with connection not less than NPS 1/4 and with soft metal seated globe valve, arranged for draining pipe between gauge and valve. Install gauges to permit removal and install where they are not subject to freezing.
- 3.02 JOINT CONSTRUCTION
- A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
  - B. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
  - C. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

- D. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- E. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.
- F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
  - 1. Apply appropriate tape or thread compound to external pipe threads.
  - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- G. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.
- H. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.
- I. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems where applicable.

### 3.03 INSTALLATION OF VALVES AND SPECIALTIES

- A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13.
- B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

### 3.04 ELECTRICAL INSTALLATION

- A. The fire sprinkler system's components that are connected to the building's existing fire alarm system must be tested to ensure that equipment and components function as intended.

### 3.05 FIELD PAINTING

- A. Painting: Clean, pretreat, prime, and paint new sprinkler systems including valves, piping, conduit, hangers, miscellaneous metalwork, and accessories. Apply coatings to clean dry surfaces using clean brushes. Clean the surfaces to remove dust, dirt, rust and loose mill scale. Immediately after cleaning, provide the metal surfaces with one coat of pretreatment primer applied to a minimum dry film thickness of 0.3 mil, and one coat of primer applied to a minimum dry film thickness of one mil. Exercise care to avoid painting of sprinkler heads or protective devices. Remove materials which are used to protect sprinkler heads, while painting is in process, upon the completion of painting. Remove sprinkler heads which are painted and provide new clean sprinkler heads of the proper type. Provide primed surfaces with the following:
  - 1. Sprinkler Systems in Unfinished Areas: Unfinished areas are defined as attic spaces, spaces above suspended ceilings, crawl spaces, pipe chases, and spaces where walls or ceiling are not painted or not constructed of prefinished material.

2. Sprinkler Systems in All Other Areas: Provide primed surfaces with two coats of paint to match adjacent surfaces, except provide valves and operating accessories with one coat of red enamel.

### 3.06 IDENTIFICATION

- A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

### 3.07 FIELD TESTING AND FLUSHING

- A. Preliminary Tests: Perform the following tests and inspections and any additional tests required by the inspector:
  1. Hydrostatically test the sprinkler system at 200 psig or at 50 psi in excess of the maximum pressure when the maximum will be in excess of 150 psi, for a period of two hours. Piping above suspended ceilings must be tested, inspected, and approved before installation of ceilings.
  2. Flush sprinkler piping in accordance with NFPA 13. Continue flushing operations until water is clear, but for not less than 10 minutes.
  3. Following flushing of the underground piping, a main drain test must be made to verify the adequacy of the water supply. Static and residual pressures must be recorded on the hydraulic design data nameplate.
  4. Perform a forward flow test for each backflow prevention assembly at the system flow demand, including all applicable hose streams, as specified in NFPA 13. A metal placard must be provided on the backflow prevention assembly that lists the pressure readings both upstream and downstream of the assembly, total pressure drop, and the system test flow rate determined during the preliminary testing. The pressure drop must be compared to the manufacturer's data and the readings observed during the final inspections and tests.
  5. Test the fire alarm devices associated with the fire sprinkler system and other devices as applicable. Test the water flow alarms by flowing water through the inspector's test connection. Test the tamper switches.
  6. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
  7. Energize circuits to electrical equipment and devices.
  8. Coordinate with fire-alarm tests. Operate as required.
  9. Verify that equipment hose threads are same as local fire department equipment.

#### B. Formal Inspection and Tests

1. Engineer of record will witness formal tests and approve all systems before they are accepted. Submit the request for formal inspection at least 15 days prior to the date for formal inspection is to take place. An experienced technician regularly employed by the sprinkler installer shall be present during the inspection. At this inspection, repeat any or all of the required tests as directed. Correct defects in the work provided by the Contractor and make additional tests until it has been demonstrated that the systems comply with all contract requirements. Furnish appliances, equipment, electricity, instruments, connecting devices, and personnel for the tests. All necessary tests encompassing all aspects of system operation shall be made including the test listed in the previous section, and any deficiency found shall be corrected and the system retested at no cost to the owner.
2. The sprinkler piping system will be considered defective if it does not pass tests and inspections.
3. Prepare test and inspection reports. Contractor to record all values and results of inspections and testing.

3.08 CLEANING

- A. Clean dirt and debris from sprinkler system.
- B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

3.09 INSTRUCTING OPERATING PERSONNEL

- A. Upon completion of the work and at a time designated by the State, provide for a period of not less than 4 hours the services of experienced technicians regularly employed by the manufacturer of the sprinkler system to instruct the operating staff in the proper operation and maintenance of the equipment.

3.10 INSPECTION, MAINTENANCE, AND TESTING SERVICE AGREEMENT

- A. The contractor shall include one year inspection, maintenance, and testing service agreement in the bid. The one-year period shall begin at the date of acceptance. The agreement shall cover all labor, parts, insurance taxes, fees, and other incidental costs to inspect and test the system in accordance with NFPA 25 and the City and County of Honolulu, Fire Code. Inspection and testing of the system shall be conducted on a quarterly basis for a total of four (4) visits during the one-year period.

END OF SECTION 21 13 13