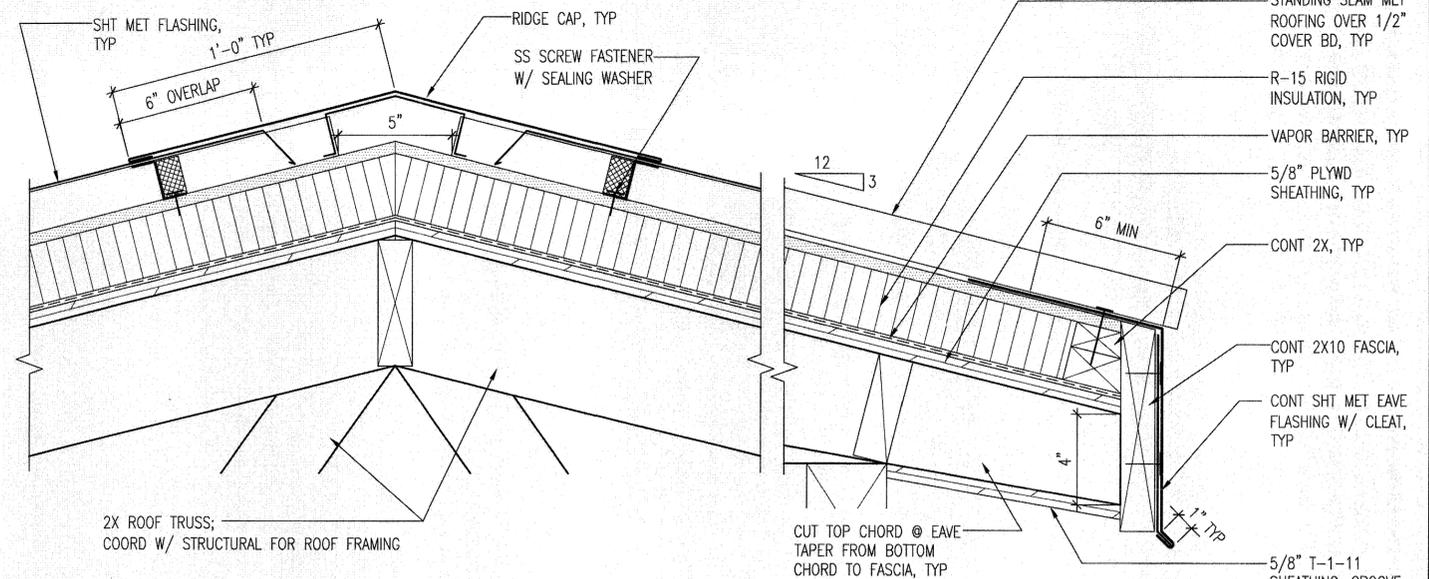
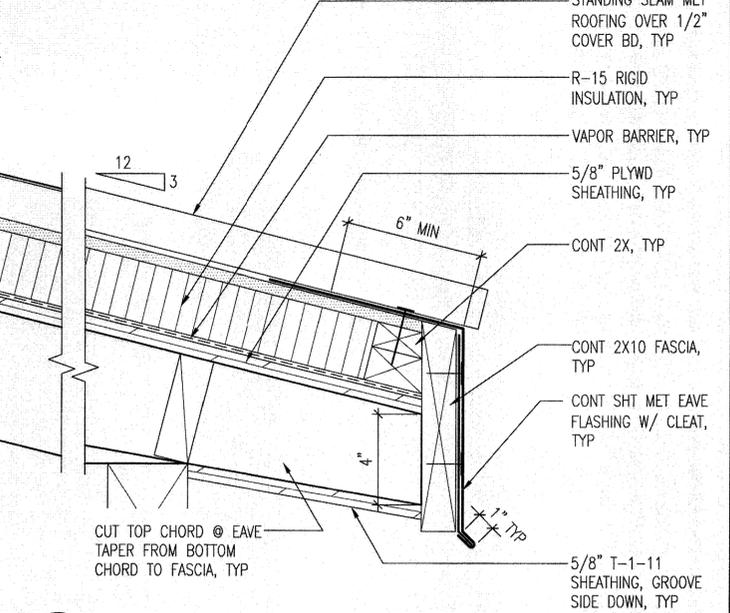


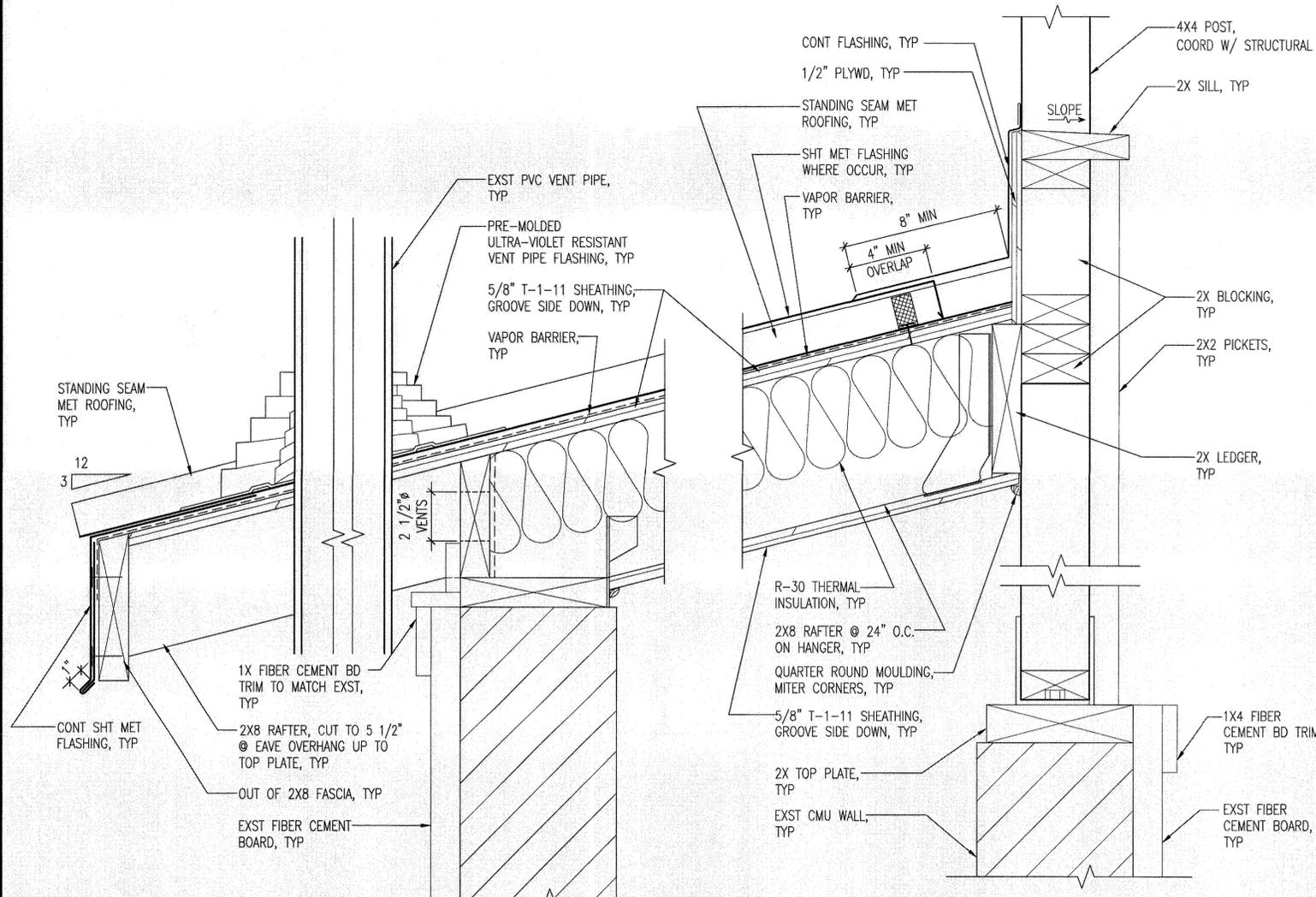
**C2** SECTION - RAKE EDGE @ TOILETS  
A-7 SCALE: 3" = 1'-0"



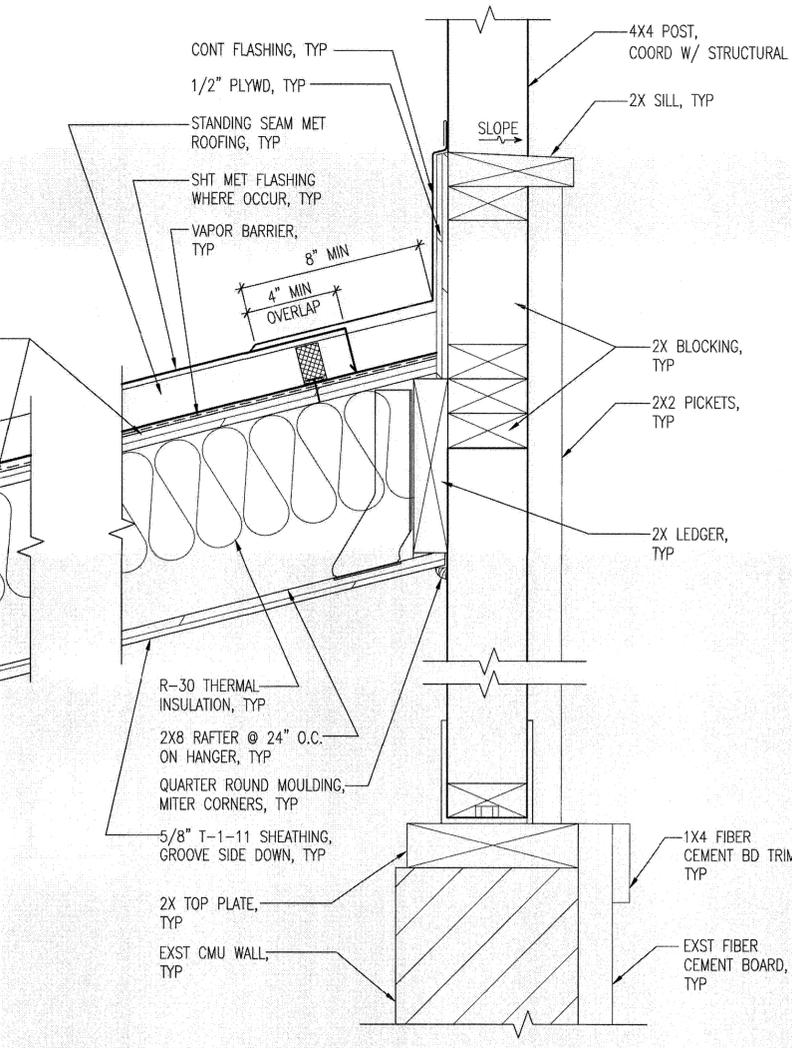
**C3** SECTION - UPPER ROOF @ RIDGE  
A-7 SCALE: 3" = 1'-0"



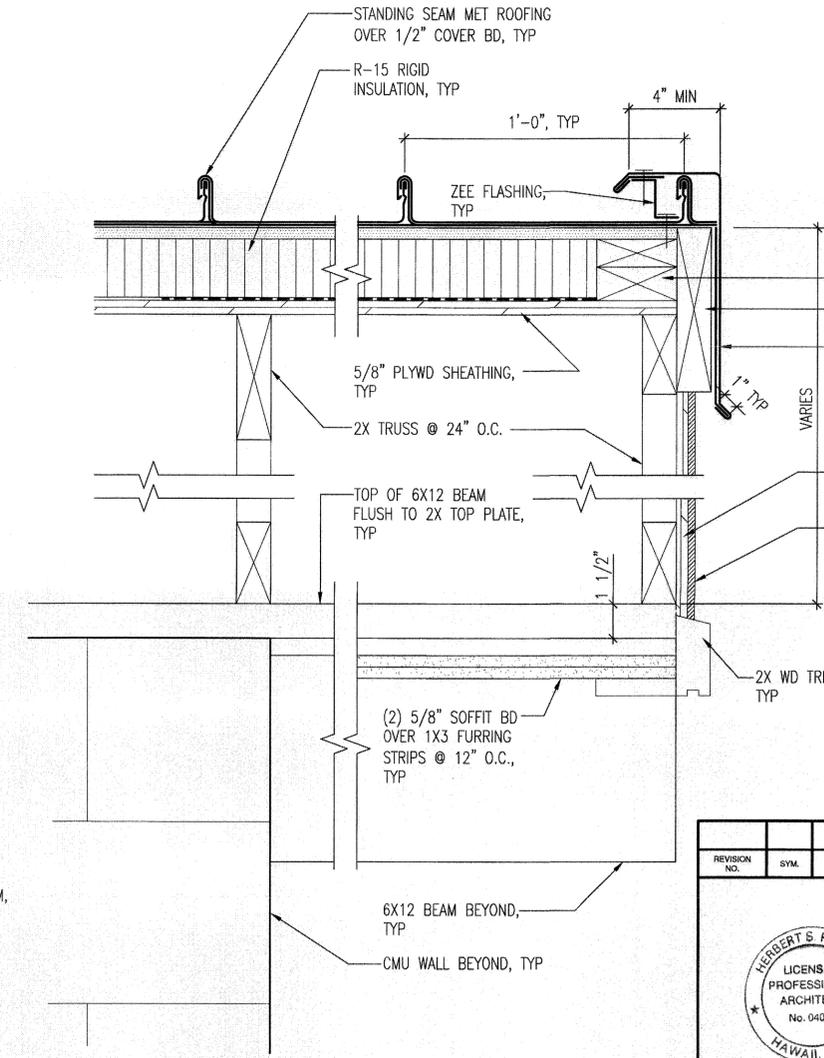
**C4** SECTION - UPPER ROOF @ EAVE  
A-7 SCALE: 3" = 1'-0"



**A1** SECTION - EAVE @ TOILETS  
A-7 SCALE: 3" = 1'-0"



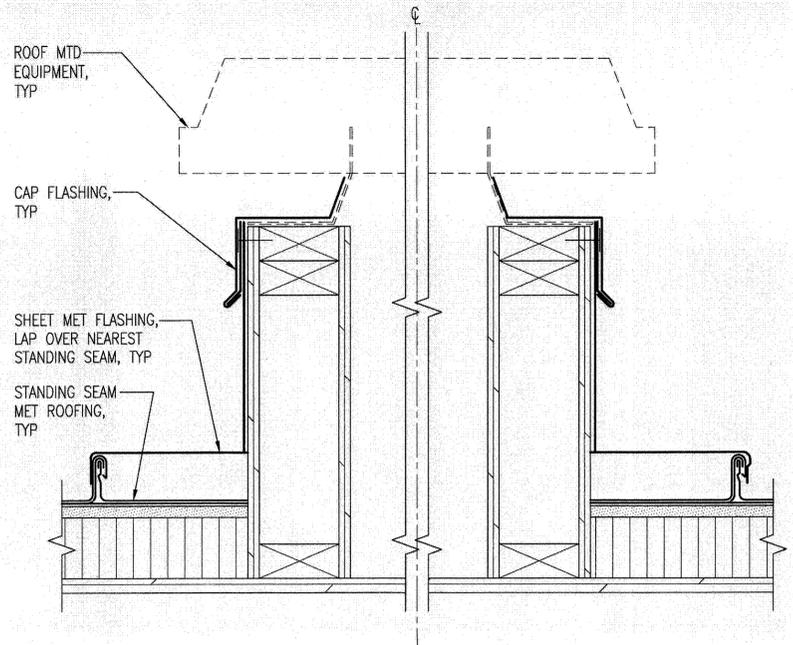
**A2** SECTION - ROOF OVER TOILETS, @ 4X4 POST  
A-7 SCALE: 3" = 1'-0"



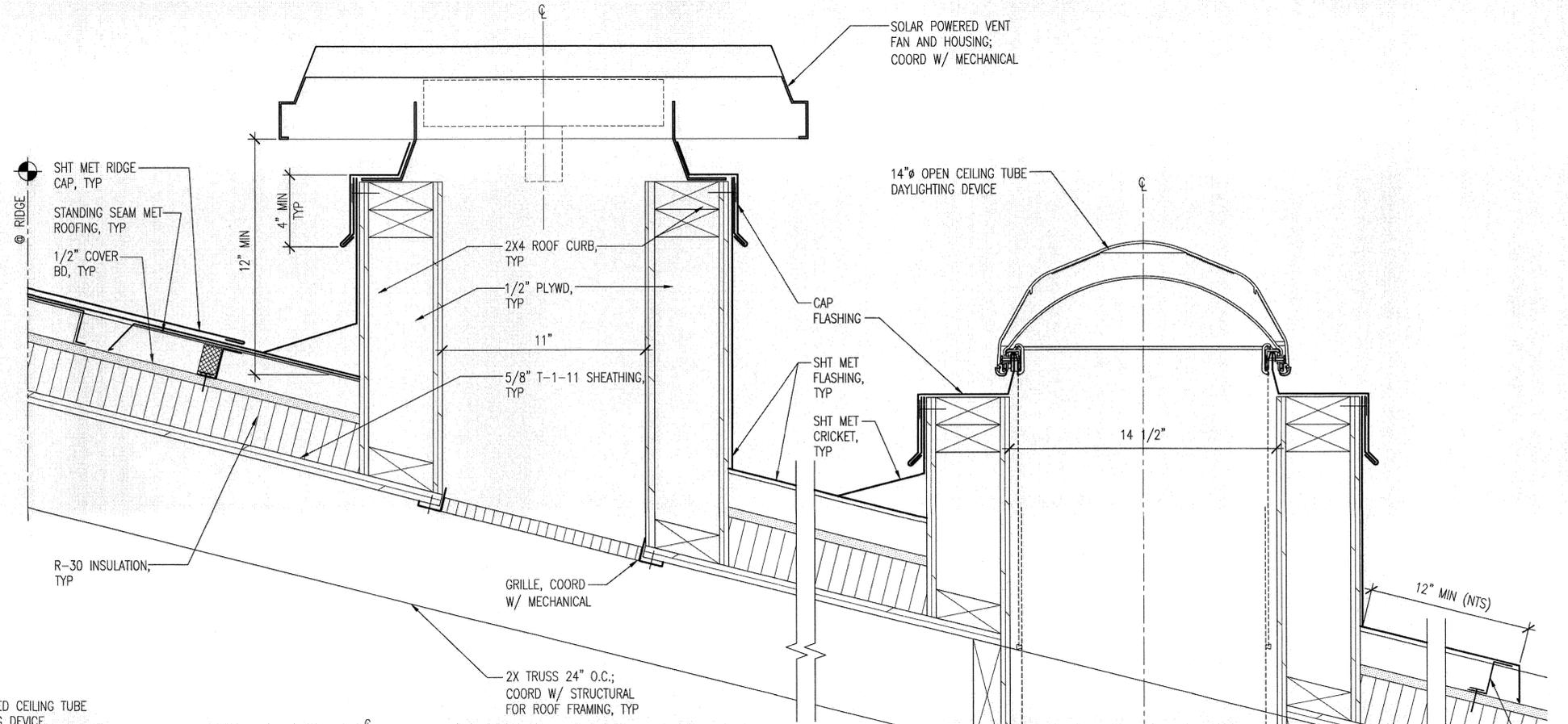
**A3** SECTION - ROOF OVER STORAGE, RAKE EDGE  
A-7 SCALE: 3" = 1'-0"

**GENERAL NOTE:**  
COORDINATE W/ STRUCTURAL FOR ROOF FRAMING AND SHEATHING.

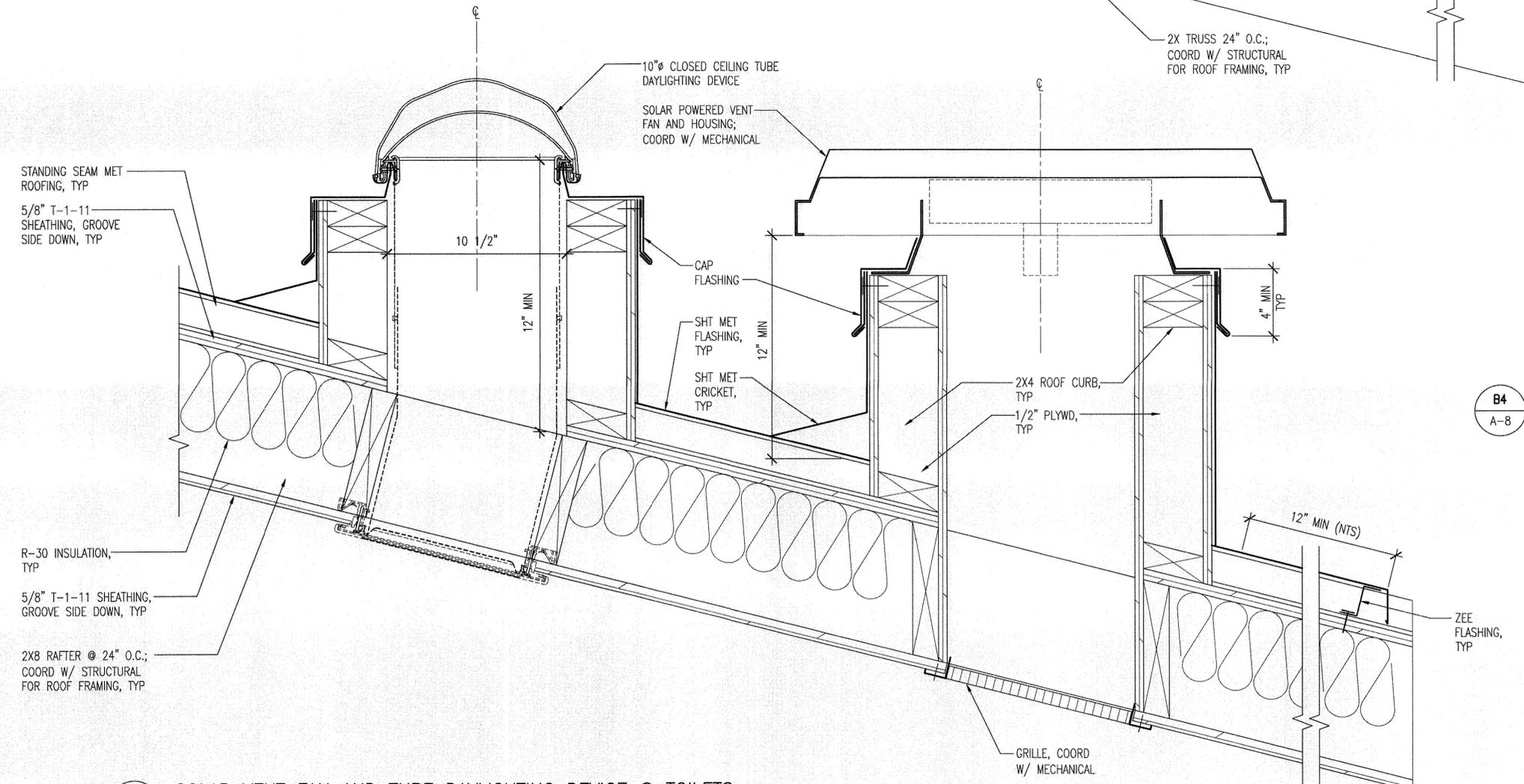
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEKAHA KAI STATE PARK            MAHAULA IMPROVEMENTS</b> <b>ROOF DETAILS</b>					
DESIGNED: JN, ML		SUBMITTED: <i>ML</i>			
DRAWN: ML		DATE: APRIL 2016			
CHECKED: HL		SCALE: AS NOTED			
APPROVED: <i>[Signature]</i>		DATE: APR 25 2016		DRAWING NO. <b>A-7</b>	
THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION Expiration Date of License 04/30/18 CHIEF ENGINEER					



**A2** SHEET METAL FLASHING (TYPICAL)  
A-8 SCALE: 3" = 1'-0"



**B4** SOLAR VENT FAN AND TUBE DAYLIGHTING DEVICE @ STORAGE RM  
A-8 SCALE: 3" = 1'-0"

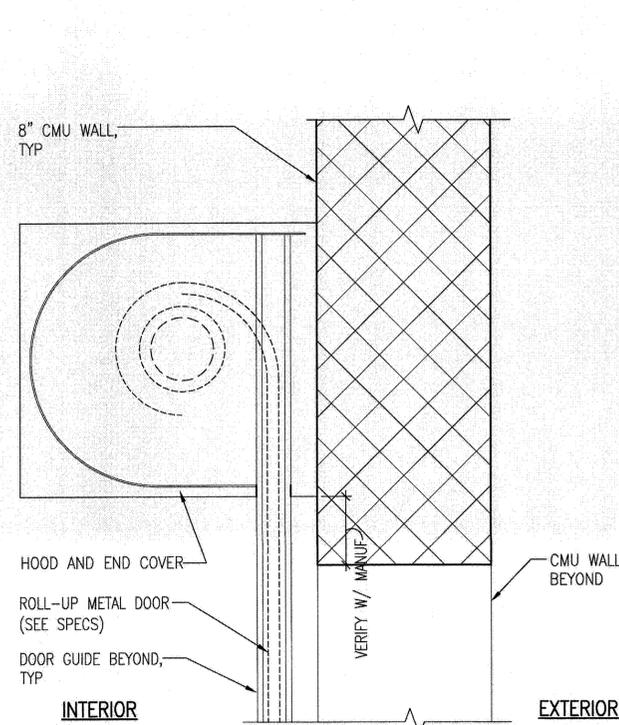


**A1** SOLAR VENT FAN AND TUBE DAYLIGHTING DEVICE @ TOILETS  
A-8 SCALE: 3" = 1'-0"

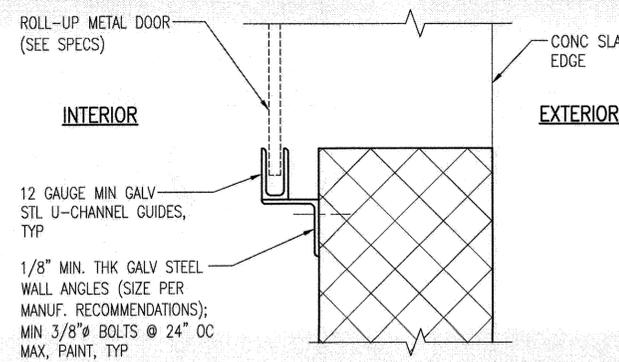
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED

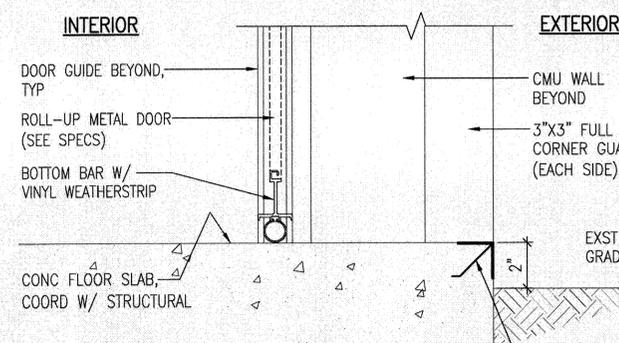
<p>HERBERT S. F. LEONG LICENSED PROFESSIONAL ARCHITECT No. 04050 HAWAII, U.S.A.</p> <p>THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p> <p>APPROVED: <i>[Signature]</i> CHIEF ENGINEER</p> <p>Expiration Date of License 04/30/18</p>	STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION	
	KEKAHA KAI STATE PARK MAHAULA IMPROVEMENTS	
	ROOF DETAILS	
	DESIGNED: JN, ML DRAWN: ML CHECKED: HL	SUBMITTED: <i>[Signature]</i> DATE: APRIL 2016 SCALE: AS NOTED
APPROVED: <i>[Signature]</i> DATE: APR 25 2018	DRAWING NO. A-8	



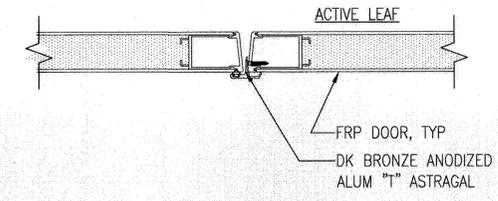
**C1** ROLL-UP DOOR - HEADER  
A-9 SCALE: 3" = 1'-0"



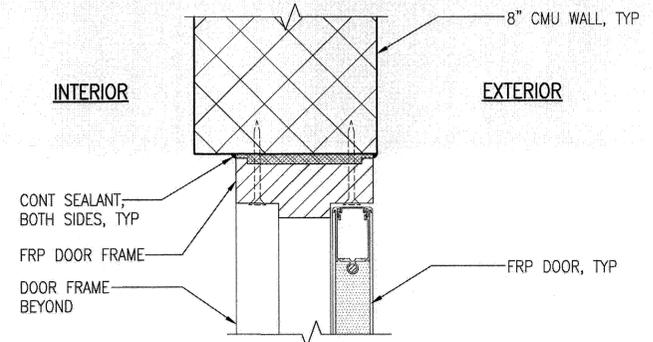
**B1** ROLL-UP DOOR - JAMB  
A-9 SCALE: 3" = 1'-0"



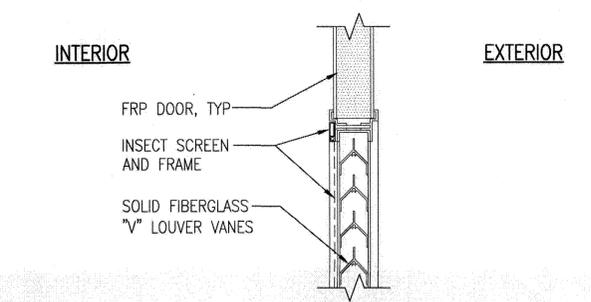
**A1** ROLL-UP DOOR - SILL  
A-9 SCALE: 3" = 1'-0"



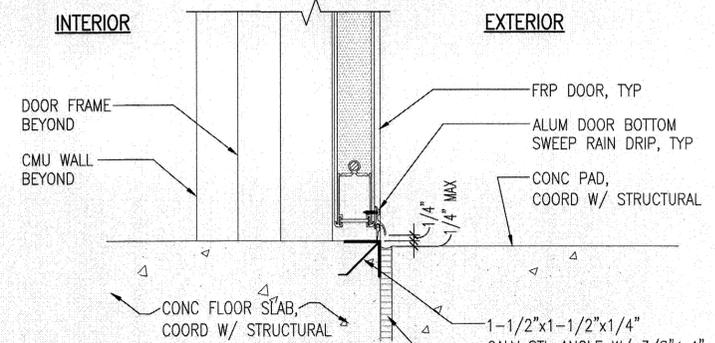
**D2** FRP DOOR - MEETING STILES  
A-9 SCALE: 3" = 1'-0"



**C2** FRP DOOR - HEAD (JAMB SIMILAR)  
A-9 SCALE: 3" = 1'-0"



**B2** FRP DOOR - LOUVER  
A-9 SCALE: 3" = 1'-0"

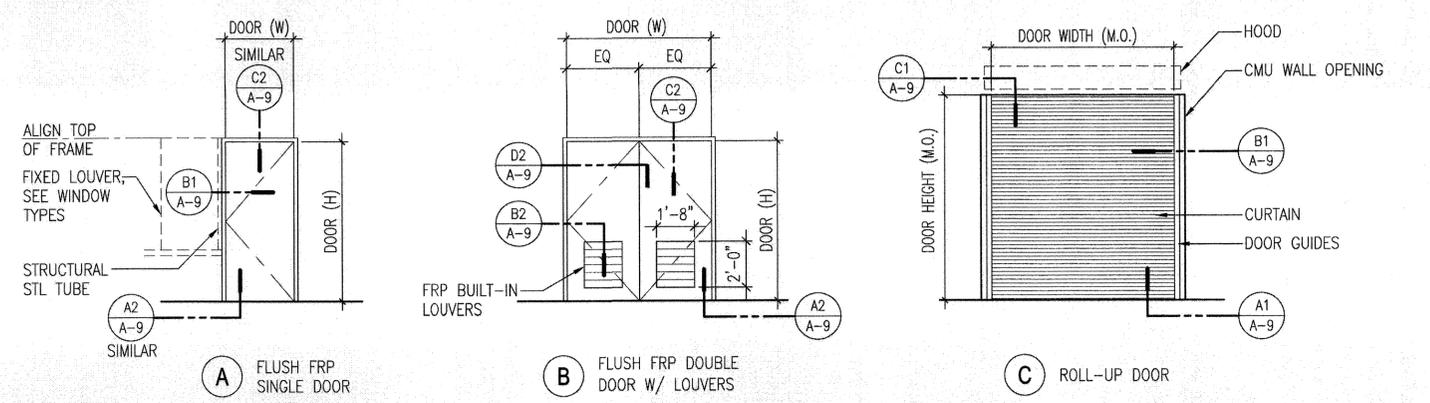


**A2** FRP DOOR - SILL  
A-9 SCALE: 3" = 1'-0"

**DOOR SCHEDULE**

DOOR NUMBER	TYPE	DOOR				GLAZING TINT	MATERIAL	FRAME			FINISH HARDWARE GROUP	REMARKS
		SIZE		THICKNESS	DETAILS							
		WIDTH	HEIGHT		HEAD			JAMB	THRESHOLD			
1	C	8'-8" (M.O.)	9'-0" (M.O.)	---	ALUM	---	C1/A-9	B1/A-9	A1/A-9	02	---	
2	B	6'-0"	7'-0"	1-3/4"	FRP	---	C2/A-9	C2/A-9	A2/A-9	01	---	
3	A	3'-0"	7'-0"	1-3/4"	FRP	---	C2/A-9	B1, C2/A-9	A2/A-9	03	---	
4	A	3'-0"	7'-0"	1-3/4"	FRP	---	C2/A-9	B1, C2/A-9	A2/A-9	03	---	

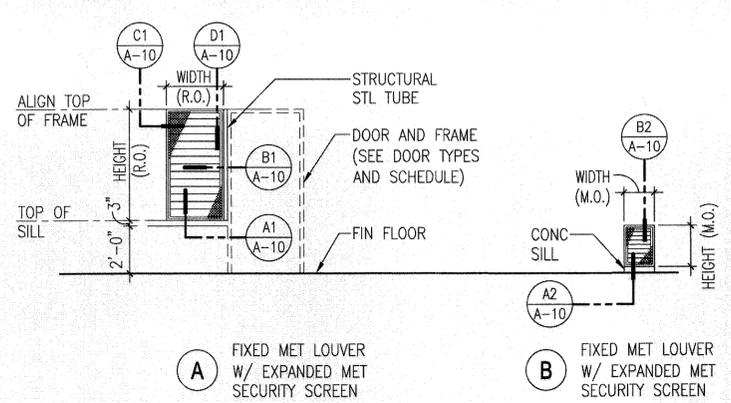
**DOOR TYPES**



**WINDOW/LOUVER SCHEDULE**

WINDOW/LOUVER NUMBER	TYPE	WINDOW		MATERIAL	HEAD	MUNTIN	FRAME			REMARKS
		SIZE					DETAILS			
		WIDTH	HEIGHT				JAMB	MULLION	SILL	
W-1	A	2'-6" (R.O.)	4'-11" (R.O.)	ALUM	D1/A-10	---	C1/A-10	---	A1/A-10	---
W-2	A	2'-6" (R.O.)	4'-11" (R.O.)	ALUM	D1/A-10	---	C1/A-10	---	A1/A-10	---
W-3	B	1'-4" (M.O.)	1'-9" (M.O.)	ALUM	B2/A-10	---	C1/A-10 (SIM)	---	A2/A-10	---
W-4	B	1'-4" (M.O.)	1'-9" (M.O.)	ALUM	B2/A-10	---	C1/A-10 (SIM)	---	A2/A-10	---
W-5	B	1'-4" (M.O.)	1'-9" (M.O.)	ALUM	B2/A-10	---	C1/A-10 (SIM)	---	A2/A-10	---
W-6	B	1'-4" (M.O.)	1'-9" (M.O.)	ALUM	B2/A-10	---	C1/A-10 (SIM)	---	A2/A-10	---

**WINDOW TYPES**



REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED

HERBERT S. F. LEONG  
LICENSED PROFESSIONAL ARCHITECT  
No. 04050  
HAWAII, U.S.A.

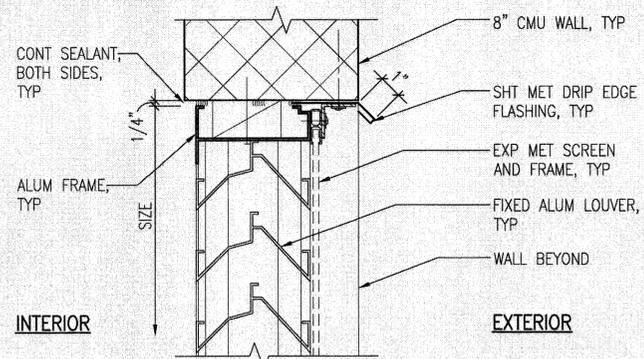
STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

**KEKAHA KAI STATE PARK  
MAHAULA IMPROVEMENTS**

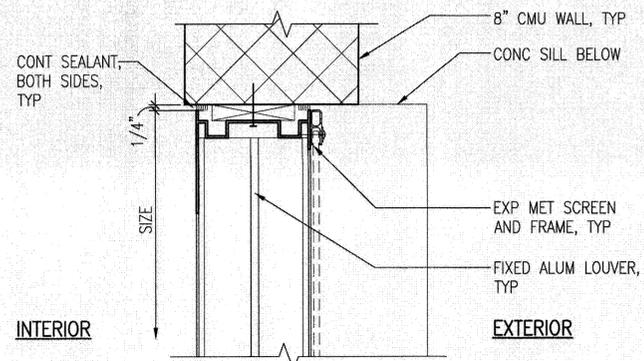
DOOR SCHEDULE, TYPES AND DETAIL,  
WINDOW SCHEDULE AND TYPES

DESIGNED: JN, ML	SUBMITTED: <i>[Signature]</i>
DRAWN: ML	DATE: APRIL 2016
CHECKED: HL	SCALE: AS NOTED
APPROVED: <i>[Signature]</i>	DATE: APR 25 2016
CHIEF ENGINEER	DRAWING NO. <b>A-9</b>

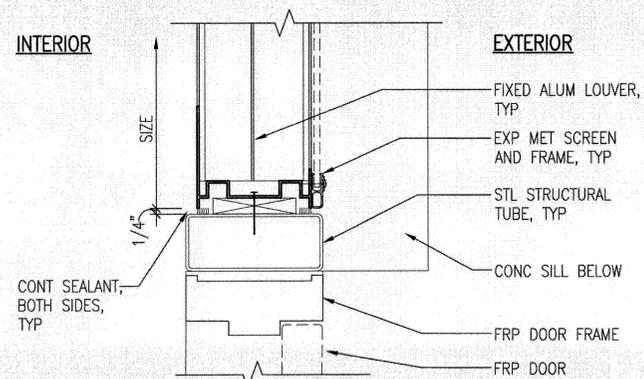
THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION  
Expiration Date of license 04/30/18



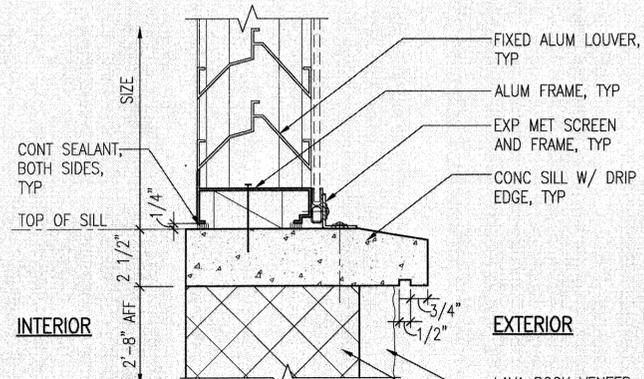
**D1** ALUM LOUVER - HEAD  
A-10 SCALE: 3" = 1'-0"



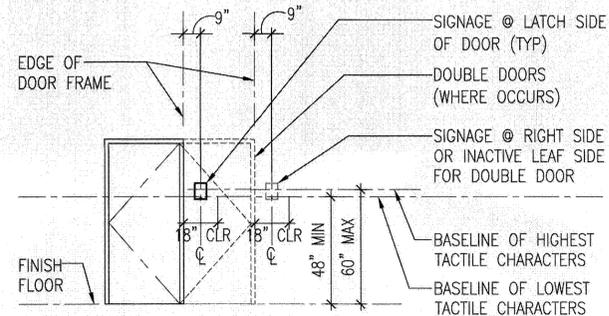
**C1** ALUM LOUVER - JAMB @ CMU WALL  
A-10 SCALE: 3" = 1'-0"



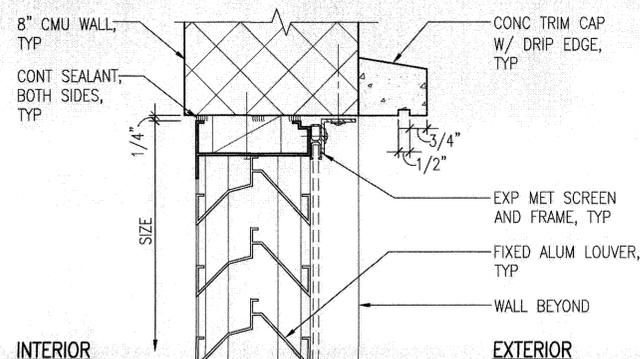
**B1** ALUM LOUVER - JAMB @ DOOR  
A-10 SCALE: 3" = 1'-0"



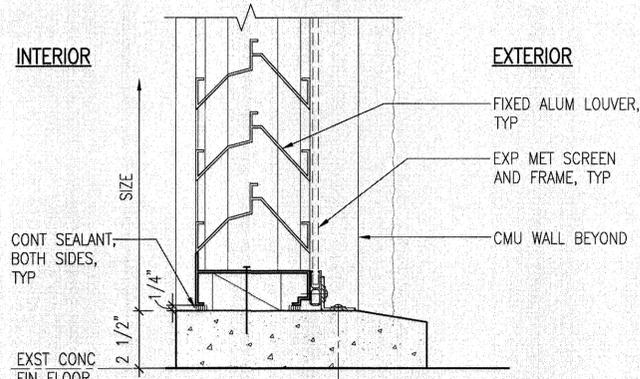
**A1** ALUM LOUVER - SILL  
A-10 SCALE: 3" = 1'-0"



**C2** SIGN MOUNTING HEIGHT DETAIL  
A-10 SCALE: 1/4" = 1'-0"



**B2** ALUM LOUVER - HEAD  
A-10 SCALE: 3" = 1'-0"



**A2** ALUM LOUVER - SILL  
A-10 SCALE: 3" = 1'-0"

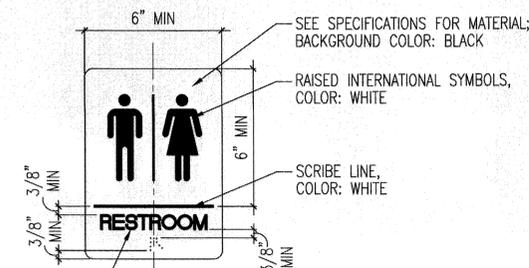
**SIGNAGE SCHEDULE**

SIGN NUMBER	ROOM	TYPE	MESSAGE	SIGN MATERIAL	DETAIL
▲ 02					
1	UNISEX TOILET	A	RESTROOM	SEE SPECIFICATIONS	C2/A-10
2	UNISEX TOILET	A	RESTROOM	SEE SPECIFICATIONS	C2/A-10
3	UNISEX TOILET	A	RESTROOM	SEE SPECIFICATIONS	C2/A-10
4	UNISEX TOILET	A	RESTROOM	SEE SPECIFICATIONS	C2/A-10

**NOTES:**

- CONTRACTOR TO VERIFY SIGN MESSAGES, LOCATIONS AND ROOM NAMES WITH KEKAHA KAI STATE PARK PRIOR TO ORDERING SIGNS.
- CONTRACTOR SHALL VERIFY QUANTITIES OF SIGNS.
- ALL CHARACTERS SHALL BE UPPERCASE, SANS SERIF AND NON-ITALIC.
- SEE REMAINDER OF DRAWINGS FOR SIGN LOCATION AND SIGN MOUNTING HEIGHT DETAIL.
- SEE SPECIFICATIONS FOR SIGNAGE MATERIAL AND MOUNTING REQUIREMENTS.

**SIGN TYPES**



5/8" HIGH, 1mm RAISED LETTERS, SIGN MESSAGE AS SCHEDULED W/ GRADE 2 BRAILLE APPROPRIATE TO SIGN MESSAGE, CENTERED, TYP; COLOR: WHITE

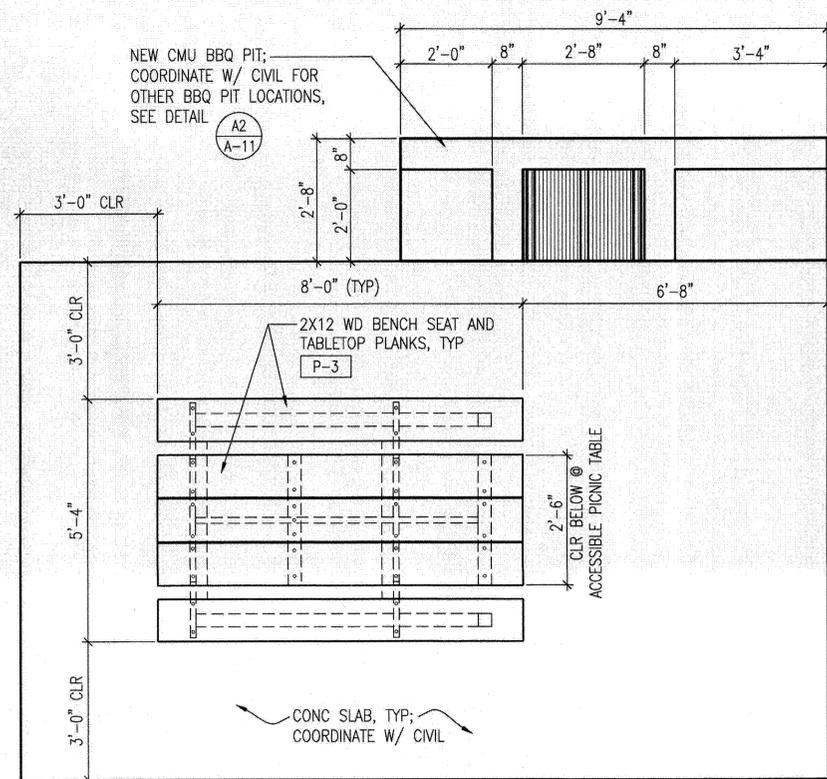
**COLOR AND MATERIAL INDEX**

SYMBOL	LOCATION/DESCRIPTION	COLOR/MATERIAL	MANUFACTURER	FINISH	REMARKS:
P-1	EXTERIOR CMU WALL, 4X POSTS AND BLOCKING @ LOWER ROOF	TUDOR BROWN, PM-24	BENJAMIN MOORE	SEMI GLOSS	SEE NOTE 1 THRU 3
P-2	INTERIOR CMU WALLS, INTERIOR FACE OF EXST WD DOOR AND FRAME, CEILING/SOFFIT AND TRIM PIECES @ STORAGE ROOM, ALL EXPOSED ROOF FRAMING AND UNDERSIDE OF ROOF DECKING	CANDLE WHITE, 2164-70	BENJAMIN MOORE	SEMI GLOSS	SEE NOTE 1 THRU 3
P-3	EXTERIOR 1X TRIM, EXTERIOR EXPOSED ROOF FRAMING, EXTERIOR UNDERSIDE OF ROOF DECK	MATCH FRP-1	--	SEMI GLOSS	SEE NOTE 1 THRU 3
P-4	PICNIC TABLE WOOD SEAT, TABLETOP PLANKS AND FRAMING	BREWSTER GRAY, HC-162	BENJAMIN MOORE	SEMI-GLOSS	SEE NOTE 1 THRU 3
FRP-1	FIBER REINFORCED POLYMER DOOR AND FRAME	CAMEL TAN / STD 5	CHEM-PRUF	PRE-FINISH FINE PEBBLE,	-

**NOTES:**

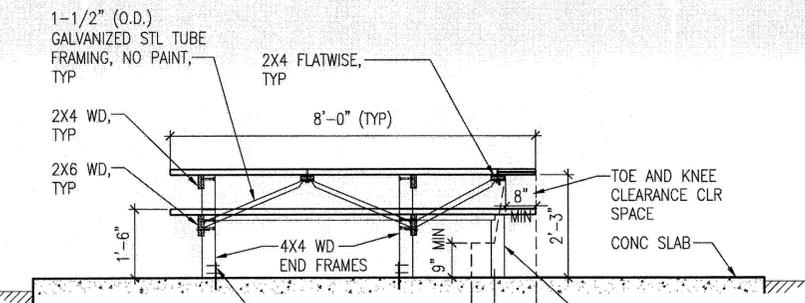
- BRAND NAMES, COLORS AND CODE NUMBERS ARE LISTED TO ESTABLISH A STANDARD AND NOT INTENDED TO LIMIT OTHER MANUFACTURERS, COLORS AND PRODUCTS OF OTHER MANUFACTURERS WITH COMPARABLE QUALITY, COLOR AND TEXTURE ARE ACCEPTABLE.
- SEE ALSO EXTERIOR AND INTERIOR ELEVATIONS FOR FINISHES.
- PROVIDE FINISHES INDICATED THROUGHOUT THE ENTIRE EXTERIOR AND INTERIOR SURFACES. UNLESS NOTED OTHERWISE.

REVISION NO.	SYMBOL	DESCRIPTION	SHT./OF	DATE	APPROVED
<p>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION</p> <p><b>KEKAHA KAI STATE PARK MAHAULA IMPROVEMENTS</b></p> <p>WINDOW DETAILS, COLOR AND MATERIAL INDEX, SIGNAGE SCHEDULE, TYPES AND DETAILS</p>					
DESIGNED: JN, ML		SUBMITTED: ac		DATE: APRIL 2016	
DRAWN: ML		CHECKED: HL		SCALE: AS NOTED	
APPROVED: <i>[Signature]</i>		CHIEF ENGINEER		DRAWING NO. A-10	
Expiration Date of License 04/30/18		APR 25 2016		DATE	

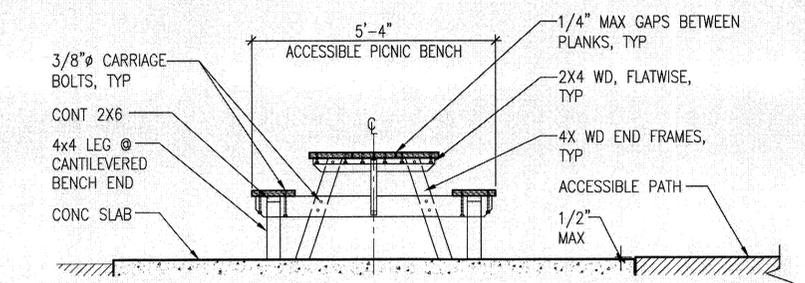


CONNECTING TO  
ACCESS PATH 3'-0" MIN

PLAN VIEW



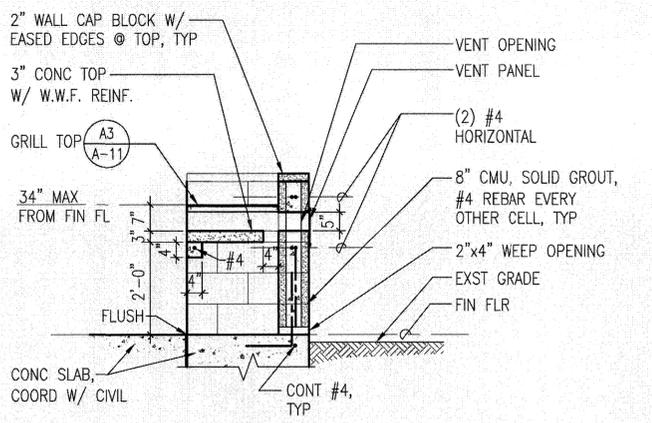
SIDE ELEVATION



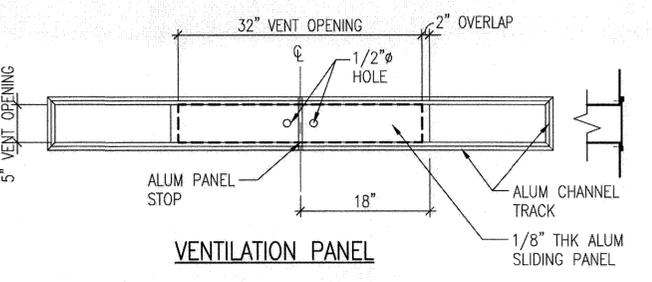
END ELEVATION

- NOTE:**
1. PAINT ALL PAINTABLE SURFACES UNLESS NOTED OTHERWISE. P-4
  2. ALL FASTENERS SHALL BE STAINLESS STEEL W/ TEMPER-RESISTANT TYPE HEADS OR NUTS UNLESS NOTED OTHERWISE.
  3. COORDINATE W/ CIVIL FOR PICNIC TABLE (QTY: 2) LOCATIONS, CONC SLAB AND CONNECTING/ ADJOINING ACCESSIBLE PATHS.

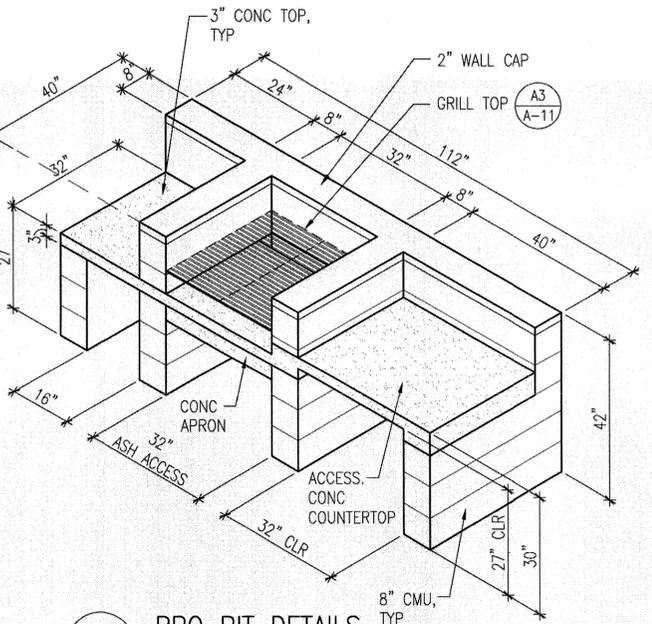
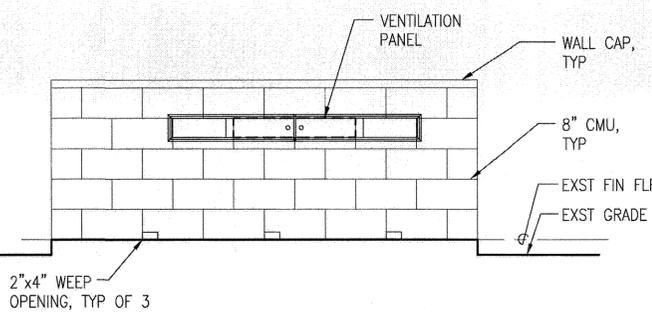
A1 PICNIC TABLE DETAILS  
SCALE: 1/2" = 1'-0"



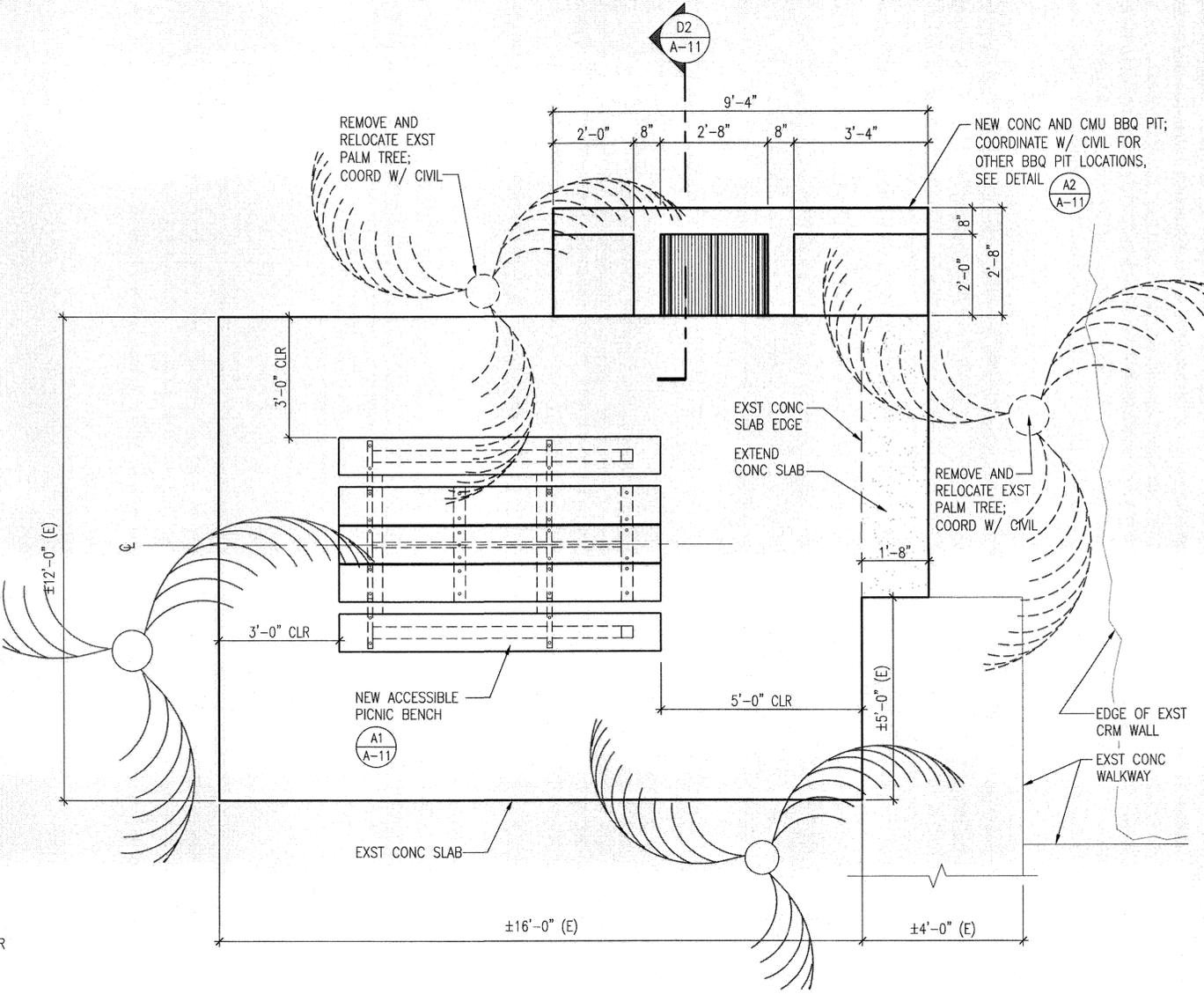
D2 BBQ PIT SECTION  
SCALE: 1/2" = 1'-0"



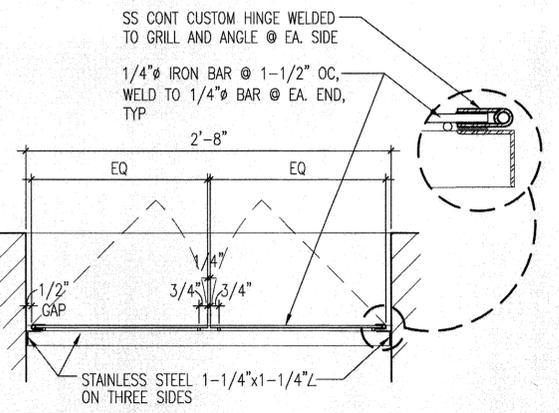
VENTILATION PANEL



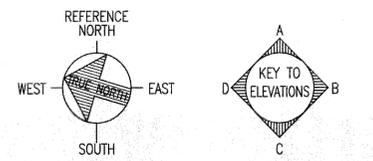
A2 BBQ PIT DETAILS  
SCALE: 1/2" = 1'-0"



B3 EXST ACCESSIBLE PICNIC/ BBQ PIT AREA - PLAN VIEW  
SCALE: 1/2" = 1'-0"



A3 DETAIL - BBQ PIT GRILL TOP  
SCALE: 1-1/2" = 1'-0"



REVISION NO.	SYMBOL	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION  <b>KEKAHA KAI STATE PARK            MAHAULA IMPROVEMENTS</b>  ACCESSIBLE PICNIC TABLE/ BENCH AND BBQ PIT FLOOR PLAN AND DETAILS					
		DESIGNED: JN, ML	SUBMITTED:		
		DRAWN: ML	DATE: APRIL 2016		
		CHECKED: HL	SCALE: AS NOTED		
		APPROVED:	DRAWING NO. A-11		
		Expiration Date of License 04/30/18	APR 25 2016 DATE		

**GENERAL:**

- A. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE BUILDING CODE AS STATED BELOW. HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
  - 1. COUNTY OF HAWAII: AMENDED IBC, 2006
- B. THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- C. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
- F. CONSTRUCTION LOADING SHALL NOT EXCEED DESIGN LIVE LOAD UNLESS SPECIAL SHORING IS PROVIDED. ALLOWABLE LOADS SHALL BE REDUCED IN AREAS WHERE THE STRUCTURE HAS NOT ATTAINED FULL DESIGN STRENGTH.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.
- H. DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.

**DEMOLITION, REMOVAL AND RELOCATION WORK:**

- A. THE CONSTRUCTION DRAWINGS INDICATE THE GENERAL EXTENT OF REQUIRED DEMOLITION AND REMOVAL WORK. SEE ARCHITECTURAL DRAWINGS FOR DEMOLITION DRAWINGS.
- B. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS (PRIOR TO BID) TO DETERMINE THE EXTENT OF ALL REQUIRED DEMOLITION WORK. THE REMOVAL OR DEMOLITION OF MATERIALS, ACCESSORIES, FIXTURES, ETC., SHALL BE COMPLETE AND INCLUDE ALL RELATED ITEMS TO THE EXTENT THAT FUTURE CONSTRUCTION CAN BE PERFORMED AND COMPLETED WITHOUT ADDITIONAL COST TO THE STATE.
- C. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO INSURE AGAINST DAMAGE TO EXISTING ITEMS AND FEATURES REMAINING IN PLACE.
- D. THE CONTRACTOR SHALL REMOVE EXISTING ITEMS AS DEEMED NECESSARY SO THAT FUTURE WORK CAN BE PERFORMED AND ALSO, SO THAT ANY EXISTING ITEM IS NOT DAMAGED WHEN FUTURE WORK IS PERFORMED. THE CONTRACTOR SHALL ALSO INSTALL ANY OR ALL OF THE ITEMS, PATCH AND RESTORE SURROUNDING SURFACES AS REQUIRED AS PART OF THE WORK ACCEPTABLE TO THE ENGINEER.

**DESIGN CRITERIA:**

- A. ROOF LIVE LOAD: ----- 20 PSF
- B. WIND DESIGN DATA
  - 1. BASIC WIND SPEED (3-SECOND GUST): ----- 105 MPH
  - 2. OCCUPANCY CATEGORY: ----- II
  - 3. IMPORTANCE FACTOR: ----- 1.0
  - 4. EXPOSURE CATEGORY: ----- C
  - 5. BUILDING ENCLOSURE CLASSIFICATION: ----- ENCLOSED
  - 6. INTERNAL PRESSURE COEFFICIENT: ----- +0.18
- C. EARTHQUAKE DESIGN DATA:
  - 1. OCCUPANCY CATEGORY: ----- II
  - 2. IMPORTANCE FACTOR: ----- 1.0
  - 3. MAPPED SPECTRAL RESPONSE ACCELERATIONS
    - a. SHORT PERIOD: ----- 1.92g
    - b. 1-SEC PERIOD: ----- 0.88g
  - 4. SITE CLASS: ----- D
  - 5. SPECTRAL RESPONSE COEFFICIENTS
    - a. SHORT PERIOD: ----- 1.28g
    - b. 1-SEC PERIOD: ----- 0.88g
  - 6. DESIGN CATEGORY: ----- E
  - 7. BASIC SEISMIC-FORCE-RESISTING SYSTEM: ----- SPECIAL REINFORCED MASONRY SHEAR WALLS
  - 8. DESIGN BASE SHEAR (ULTIMATE): ----- 20.3 KIPS (ULTIMATE)
  - 9. SEISMIC RESPONSE COEFFICIENT: ----- 5
  - 10. RESPONSE MODIFICATION FACTOR: ----- 0.26
  - 11. ANALYSIS PROCEDURE: ----- EQUIVALENT LATERAL FORCE PROCEDURE
- D. SOILS
  - 1. ALLOWABLE BEARING CAPACITY: 2,000 PSF

**SPECIAL INSPECTIONS:**

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK AS REQUIRED BY THE BUILDING CODE IS MADE AT THE APPROPRIATE TIME. THE CONTRACTOR SHALL SUBMIT STATEMENT OF RESPONSIBILITY TO THE STATE AND BUILDING DEPARTMENT PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL GIVE TIMELY NOTICE OF WHEN AND WHERE INSPECTIONS ARE TO BE MADE AND PROVIDE ACCESS FOR THE INSPECTOR. FREQUENCY OF INSPECTION IS DEFINED IN THE IBC, SECTION 1704 TABLES, AS AMENDED BY THE CITY. THE CONTRACTOR SHALL CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE STATE AND PAY FOR RE-INSPECTION AS REQUIRED.
- B. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE WITH APPROVED CONSTRUCTION DOCUMENTS. THE INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE STATE AND LICENSED ARCHITECT OR ENGINEER WHO IN TURN SHALL SUBMIT A WRITTEN STATEMENT TO THE CITY CERTIFYING RECEIPT OF THE FINAL INSPECTION LETTER AND DOCUMENTING THAT THERE ARE NO KNOWN UNRESOLVED CODE REQUIREMENTS.
- C. THE FOLLOWING TYPE OF WORK LISTED IN THE IBC, SECTION 1704, AS AMENDED BY THE COUNTY, REQUIRES SPECIAL INSPECTION:
  - 1. INSPECTION OF FABRICATOR/SHOP UNLESS WORK IS DONE BY A REGISTERED AND APPROVED FABRICATOR SHOP.
    - a. PRE-ENGINEERED TRUSSES
  - 2. CONCRETE CONSTRUCTION
    - a. EXCEPTIONS: INSPECTIONS NOT REQUIRED FOR CONCRETE POURS FOR
      - i. CONCRETE FOOTINGS SUPPORTING BUILDINGS THREE STORIES OR LESS IN HEIGHT THAT ARE FULL SUPPORTED ON EARTH OR ROCK (DESIGNED FOR  $f_c=2,500$  PSI), INSPECTION OF REINFORCING IS REQUIRED
      - ii. NON STRUCTURAL SLABS SUPPORT DIRECTLY ON GROUND
    - b. PLACEMENT OF REINFORCING STEEL
  - 3. MASONRY CONSTRUCTION
    - a. PLACEMENT OF REINFORCING STEEL
    - b. MORTAR AND MORTAR JOINTS
    - c. PLACEMENT OF GROUT

**FOUNDATION:**

- A. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER OR SEEPAGE.
- B. EXCAVATIONS FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOOTING OR FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOOTING OR FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.
- C. FOOTINGS SHALL BEAR ON UNDISTURBED IN-SITU FIRM SOILS. BOTTOM OF FOOTINGS SHALL BE COMPACTED TO PROVIDE A RELATIVELY FIRM AND SMOOTH BEARING SURFACE PRIOR TO PLACEMENT OF REINFORCING STEEL AND CONCRETE. IF SOFT AND/OR LOOSE MATERIALS ARE ENCOUNTERED AT THE BOTTOM OF FOOTING EXCAVATIONS, THEY SHALL BE OVER-EXCAVATED TO EXPOSE THE UNDERLYING FIRM MATERIALS. THE OVER-EXCAVATION SHALL BE BACKFILLED WITH SELECT GRANULAR MATERIAL COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION OR THE FOOTING BOTTOM MAY BE EXTENDED DOWN TO THE UNDERLYING COMPETENT MATERIAL.

**CONCRETE:**

- A. CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318
- B. CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK CONCRETE AND SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
  - 1. FOOTINGS, SLAB-ON-GRADE: 3,000 (DESIGNED FOR 2,500) PSI
- C. CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
- D. WATER USED IN MIXING CONCRETE SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALIS, SALTS, ORGANIC MATERIALS OR OTHER SUBSTANCES THAT ARE DELETERIOUS TO CONCRETE OR STEEL REINFORCEMENT.
- E. FREQUENCY OF CONDUCTING STRENGTH TESTS SHALL BE AS FOLLOWS:
  - 1. SAMPLES FOR STRENGTH OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS.
  - 2. IF THE TOTAL VOLUME OF CONCRETE IS SUCH THAT THE FREQUENCY OF TESTING WOULD PROVIDE LESS THAN FIVE STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, TESTS SHALL BE MADE FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE BATCHES ARE USED.
- F. ALL INSERTS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A153 UNLESS OTHERWISE NOTED.
- G. REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- H. CONDUITS, PIPES, AND SLEEVES PASSING THROUGH A SLAB OR FOOTING AND NOT CONFORMING TO TYPICAL DETAILS SHALL BE LOCATED AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- I. SEE ARCHITECTURAL DRAWINGS FOR CHAMFERS, EDGE RADII, DRIPS, REGLETS, FINISHES AND OTHER NON-STRUCTURAL ITEMS NOT SHOWN OR SPECIFIED ON THE STRUCTURAL DRAWINGS.
- J. NON-SHRINK GROUT SHALL BE A PREMIXED NON-METALLIC FORMULA, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 1 DAY AND 5,000 PSI IN 28 DAYS.

**REINFORCING STEEL:**

- A. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60 AND EPOXY-COATED ACCORDING TO ASTM A934.
- B. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
  - 1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: ----- 3"
  - 2. CONCRETE FORMED AND EXPOSED TO EARTH OR WEATHER:
    - a. NO. 5 BAR AND SMALLER: ----- 1.5"
  - 3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    - a. SLABS:
      - i. NO. 11 BAR AND SMALLER: ----- 0.75"
- C. CLEAR DISTANCE BETWEEN THE SURFACE OF A BAR AND ANY SURFACE OF A MASONRY UNIT SHALL BE NOT LESS THAN 1/2 INCH, UNLESS OTHERWISE NOTED.
- D. REINFORCING STEEL SHALL BE SPLICED WHERE INDICATED ON PLANS. PROVIDE LAP SPLICE LENGTH PER TYPICAL DETAILS AND SCHEDULE, UNLESS OTHERWISE NOTED.
- E. STANDARD HOOKS ON REINFORCING BARS USED SHALL COMPLY WITH ACI 318, SECTION 7.1.
- F. MINIMUM REINFORCEMENT BEND DIAMETERS SHALL COMPLY WITH ACI 318, SECTION 7.2

**MASONRY:**

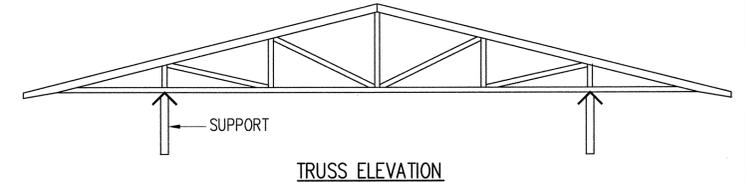
- A. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 FOR LOAD-BEARING CONCRETE MASONRY UNITS MEDIUM WEIGHT WITH A UNIT COMPRESSIVE STRENGTH OF 1900 PSI.
- B. MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C 270 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI. UNUSED MORTAR SHALL BE DISCARDED WITHIN 2 1/2 HOURS AFTER INITIAL MIXING. MORTAR FOR MASONRY SHALL BE TYPE S.
- C. GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
- D. ALL CELLS AND BOND COURSES WITH REINFORCEMENT AND INSERTS SHALL BE SOLID GROUTED. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5'-4" IN HEIGHT.
- E. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1 1/2 INCHES BELOW THE TOP OF THE UPPERMOST UNIT.
- F. SEE ARCHITECTURAL DRAWINGS FOR LAYING PATTERN, HEIGHT OF UNITS, SURFACE TEXTURE, AND JOINT TYPE.
- G. OPEN-ENDED BLOCKS MAY BE SUBSTITUTED FOR STANDARD CONCRETE MASONRY UNITS.
- H. FABRICATOR SHALL BE A PCI CERTIFIED PLANT.

**DIMENSION LUMBER:**

- A. WOOD USED FOR SUPPORTING LOADS SHALL BE IDENTIFIED BY THE GRADE MARK OF A LUMBER GRADING OR INSPECTION AGENCY THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH AMERICAN SOFTWOOD LUMBER STANDARD DOC PS 20 OR EQUIVALENT.
- B. UNLESS NOTED OTHERWISE, WOOD USED FOR SUPPORTING LOADS SHALL HAVE THE FOLLOWING GRADES OR BETTER:
  - 1. 4x MEMBERS: ----- GRADE NO. 1
  - 2. 6x MEMBERS: ----- GRADE NO. 1
- C. WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC PS 1 OR PS 2. EACH PANEL OR MEMBER SHALL BE IDENTIFIED FOR GRADE AND GLUE TYPE BY THE TRADEMARKS OF AN APPROVED TESTING AGENCY.
- D. WOOD STRUCTURAL PANEL SHEATHING SHALL BE OF A TYPE MANUFACTURED WITH EXTERIOR GLUE (EXPOSURE 1 OR EXTERIOR).
- E. WOOD SUPPORTING PERMANENT STRUCTURES SHALL BE PRESERVATIVE TREATED AND CONFORM TO THE REQUIREMENTS OF THE APPLICABLE AWPAC STANDARD FOR THE SPECIES, PRODUCT, PRESERVATIVE, AND END USE. PRESERVATIVE SHALL CONFORM TO AWPAC C2.
- F. WOOD REQUIRED TO BE PRESERVATIVE TREATED SHALL BEAR THE QUALITY MARK OF AN INSPECTION AGENCY.
- G. WOOD SHALL BE AT A MOISTURE CONTENT OF 19 PERCENT OR LESS BEFORE BEING COVERED WITH INSULATION, INTERIOR WALL FINISH, FLOOR COVERINGS OR OTHER MATERIALS.
- H. THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THAT SET FORTH IN TABLE 2304.9.1. NAILS SHALL BE STAINLESS STEEL COMMON NAILS.
- J. METAL FRAMING ANCHORS SHALL BE SIMPSON STRONG TIE STAINLESS STEEL OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- K. PLACE A LAYER OF 30# ROOFING FELT BETWEEN ALL WOOD MEMBERS AND CONCRETE MASONRY SURFACES.

**METAL-PLATE-CONNECTED WOOD TRUSSES:**

- A. METAL-PLATE-CONNECTED WOOD TRUSSES SHALL COMPLY WITH:
  - 1. TPI 1, NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION.
  - 2. TPI DSB, RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL-PLATE-CONNECTED WOOD TRUSSES.
  - 3. TIP HIB, COMMENTARY AND RECOMMENDATION FOR HANDLING, INSTALLING AND BRACING METAL-PLATE-CONNECTED WOOD TRUSSES.
- B. THE FABRICATOR SHALL BE A MEMBER OF TPI AND HAVE A MINIMUM OF 3 YEARS SUCCESSFUL EXPERIENCE IN THE FABRICATION OF METAL-PLATE-CONNECTED WOOD TRUSSES. THE FABRICATOR SHALL HAVE SUFFICIENT PRODUCTION CAPACITY TO PRODUCE, TRANSPORT AND DELIVER THE REQUIRED TRUSSES WITHOUT CAUSE OF DELAY IN THE WORK.
- C. TRUSS CONSTRUCTION DOCUMENTS SHALL BE PREPARED OR UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF HAWAII AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION. TRUSS CONSTRUCTION DOCUMENTS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION SPECIFIED BELOW:
  - 1. SHOW LOCATION, PITCH, SPAN, CAMBER, CONFIGURATION AND SPACING FOR EACH TYPE OF TRUSS REQUIRED.
  - 2. INDICATE SIZES, STRESS GRADE AND SPECIES FOR LUMBER.
  - 3. INDICATE LOCATIONS OF PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
  - 4. INDICATE TYPE, SIZE, MATERIAL, FINISH, DESIGN VALUES, ORIENTATION, AND LOCATION OF METAL CONNECTOR PLATES.
  - 5. SHOW SPLICE DETAILS AND BEARING DETAILS.
  - 6. INCLUDE STRUCTURAL ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN.
- D. WOOD SHALL BE PRESERVATIVE TREATED.
- E. METAL CONNECTOR PLATES SHALL BE STAINLESS STEEL AND NOT LESS THAN 0.035 INCH THICK.
- F. TRUSS MEMBERS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED OR OTHERWISE ALTERED IN ANY WAY WITHOUT THE APPROVAL OF A REGISTERED DESIGN PROFESSIONAL.
- G. MULTI-PLY TRUSSES SHALL BE NAILED TO EACH OTHER WITH 16d COMMON NAILS AT 10 INCHES O.C. ALONG ALL TRUSS MEMBERS.
- H. SEE ARCHITECTURAL DRAWINGS FOR SLOPES OF TOP AND BOTTOM CHORDS.
- I. STRUCTURAL PERFORMANCE
  - 1. ROOF DEAD LOAD (NOT INCLUDING WEIGHT OF TRUSSES) = 10 PSF
  - 2. MAXIMUM DEFLECTION UNDER DESIGN LOADS: VERTICAL DEFLECTION OF 1/240 SPAN.
  - 3. MINIMUM TRUSS MEMBER SIZES
    - a. TOP CHORD = 2x6
    - b. BOTTOM CHORD = 2x4
    - c. WEB MEMBERS = 2x4



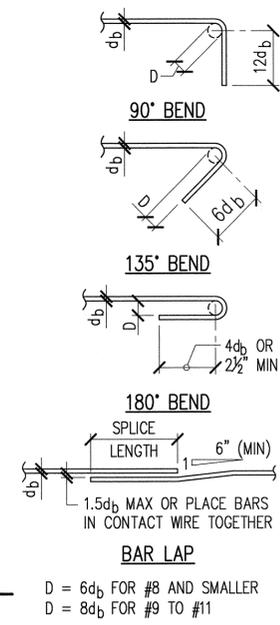
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION  <b>KEKAHA KAI STATE PARK                      MAHAUILA IMPROVEMENTS</b>  <b>GENERAL NOTES</b>					
DESIGNED: JM		SUBMITTED: <i>gc</i>			
DRAWN: CADD		DATE: APRIL 2016			
CHECKED: KH		SCALE: AS NOTED			
APPROVED: <i>[Signature]</i>		CHIEF ENGINEER		APR 25 2016	DRAWING NO. S-1
Expiration Date of License 4/30/18					

MINIMUM SPLICE AND DEVELOPMENT LENGTHS					
BAR SIZE	CONCRETE STRENGTH = 3,000 PSI				
	LAP SPLICE		DEVELOPMENT		
	TOP BARS	OTHER BARS	STRAIGHT TOP BARS	STRAIGHT OTHER BARS	WITH STANDARD HOOK
#3	28"	22"	22"	18"	10"
#4	38"	30"	30"	22"	12"
#5	48"	36"	36"	28"	14"
#6	56"	44"	44"	34"	18"
#7	82"	64"	64"	48"	20"
#8	94"	72"	72"	56"	22"
#9	106"	82"	82"	62"	26"
#10	118"	92"	92"	70"	28"
#11	132"	102"	102"	78"	32"

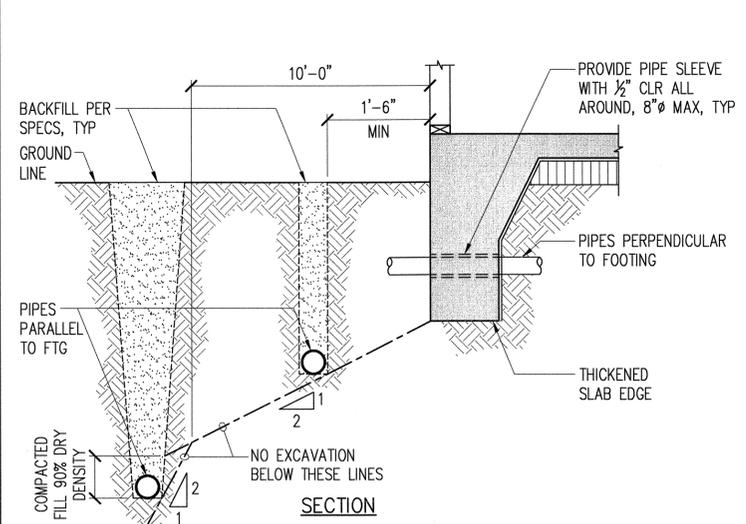
NOTES:  
 1. LENGTHS ARE FOR CONCRETE WITH REBAR SPACED AT 6 BAR DIAMETERS MINIMUM. INCREASE LENGTHS BY 25% FOR BARS SPACED LESS THAN 6 BAR DIAMETERS.  
 2. "TOP BARS" ARE HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE CAST BELOW.

### TYPICAL REBAR SPLICE AND DEVELOPMENT LENGTH SCHEDULE

1  
S-2 NOT TO SCALE

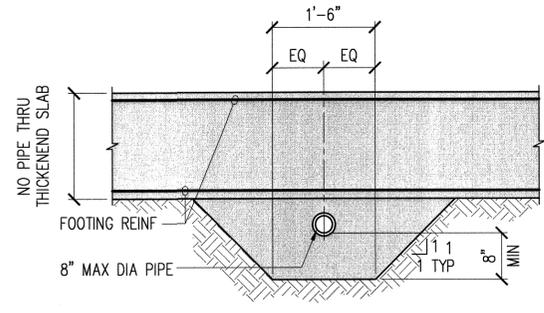


D = 6db FOR #8 AND SMALLER  
 D = 8db FOR #9 TO #11



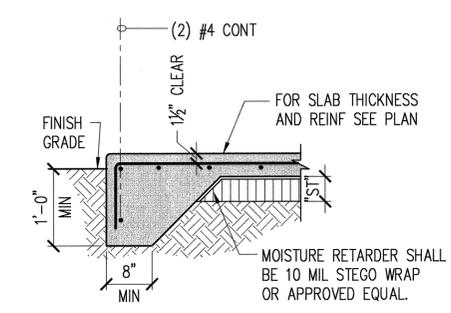
### 2 TYPICAL PIPE AT THICKENED SLAB DETAIL

S-2 NOT TO SCALE



ELEVATION

NOTES:  
 1. FOR PIPES PERPENDICULAR TO FOOTING AT MORE THAN 3'-0" BELOW BOTTOM OF FOOTING, TRENCH SHALL BE BACKFILLED WITH COMPACTED FILL PER SPECIFICATIONS.  
 2. CONTRACTOR SHALL DETERMINE EXACT DEPTH AND LOCATION OF PIPES PRIOR TO EXCAVATION FOR FOOTINGS. FOOTING SHALL BE LOWERED AS REQUIRED.

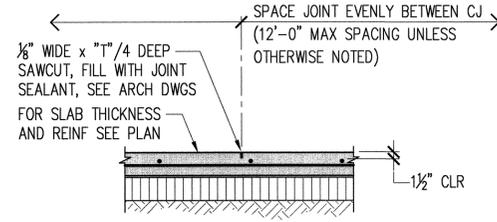


A AT SLAB EDGE

SLAB ON GRADE NOTES:  
 1. THICKNESS OF SLAB-ON-GRADE SHOWN IS MINIMUM AND SHALL BE MAINTAINED AT ALL SLOPED AND DEPRESSED AREAS.  
 2. FOR FLOOR ELEVATIONS, DEPRESSED SLABS LOCATIONS, SLOPES TO DRAIN, AND EQUIPMENT PAD AND CURB LOCATIONS SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.

### 3 TYPICAL SLAB-ON-GRADE DETAILS

3  
S-2 NOT TO SCALE

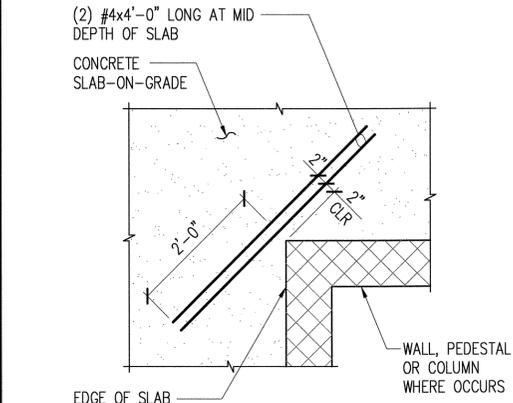


TYPICAL SAWCUT JOINT - (Sj-1)

NOTES:  
 1. SAW CUTTING SHALL OCCUR AS SOON AS CONCRETE SURFACE IS FIRM ENOUGH TO NOT BE TORN BY CUTTING BLADE AND BEFORE SHRINKAGE CRACKING OCCURS, BUT NO LATER THAN 12 HOURS AFTER CONCRETE HAS BEEN POURED.  
 2. SUBMIT JOINTING PLANS FOR REVIEW.  
 3. FOR ALL CONCRETE WALKWAYS, RAMPS, CURBS AND SLABS, PROVIDE CONTRACTION JOINTS AT 5± AND EXPANSION JOINTS AT 20±.

### 4 TYPICAL SLAB JOINT DETAILS

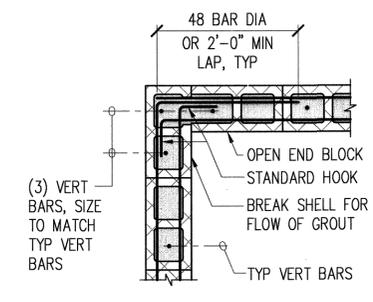
4  
S-2 NOT TO SCALE



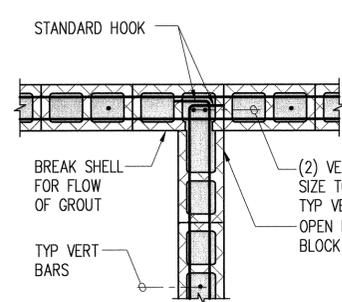
PLAN

### 5 TYPICAL SLAB INSIDE CORNER REINFORCING DETAIL

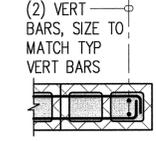
5  
S-2 NOT TO SCALE



AT CORNER



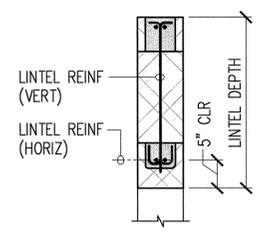
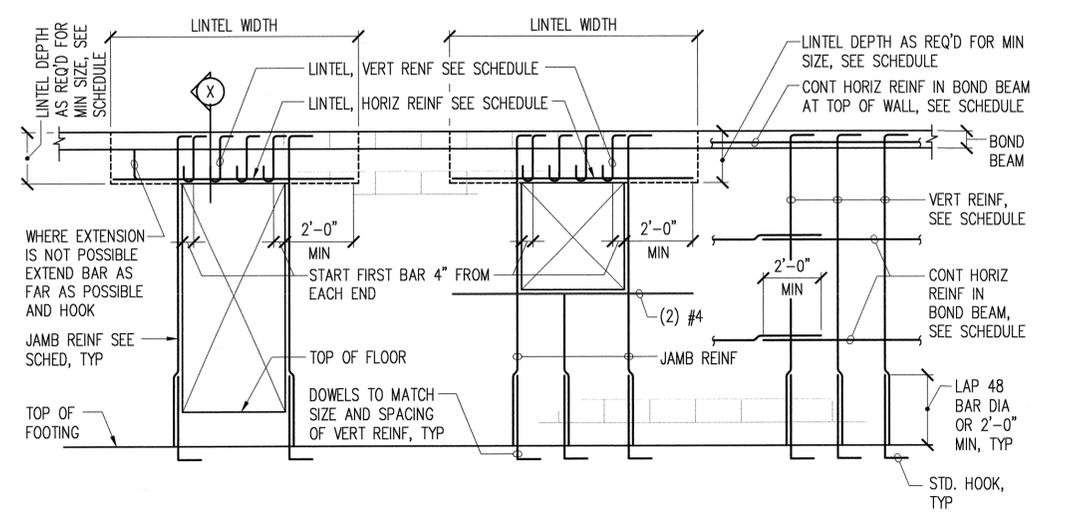
AT INTERSECTION



AT END

### 6 CMU WALL REINFORCING AT BOND BEAM

6  
S-2 NOT TO SCALE



X SECTION NOT TO SCALE

CMU WALL REINFORCING SCHEDULE			
WALL THICKNESS (INCHES)	BAR SIZE AND SPACING		REMARKS
	HORIZ	VERT	
8	(2) #4 AT 48"	#5 AT 24"	

OPENING SCHEDULE					
OPENING WIDTH	LINTEL DEPTH (MINIMUM)	REINFORCING			REMARKS
		JAMB	LINTEL HORIZ	LINTEL VERT	
W < 5'-0"	2'-8"	(2) #4	(2) #4	#4 AT 8"	
5'-1" < W < 7'-0"	2'-8"	(2) #5	(2) #5	#4 AT 8"	
7'-1" < W < 9'-0"	4'-0"	(2) #6	(2) #6	#5 AT 8"	

NOTE: ALL WALLS SHALL BE SOLID GROUTED.

### 7 TYPICAL CMU WALL ELEVATION DETAIL

7  
S-2 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED

STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 ENGINEERING DIVISION

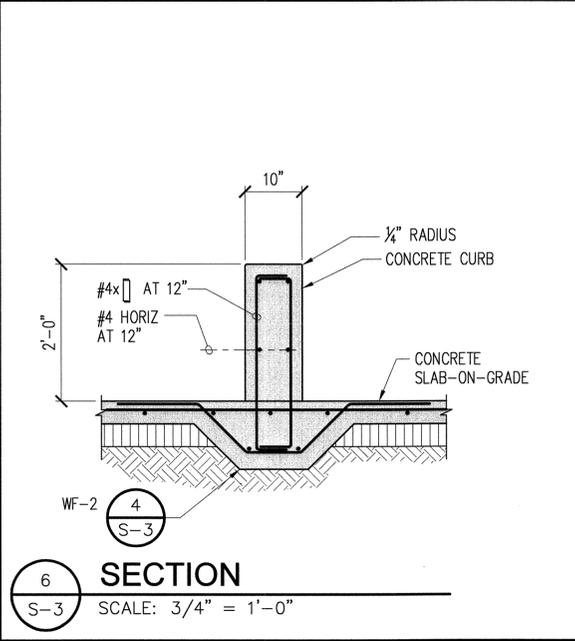
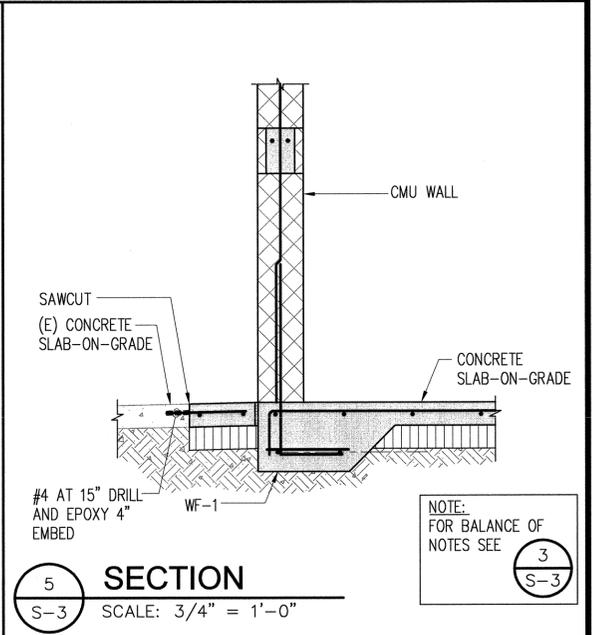
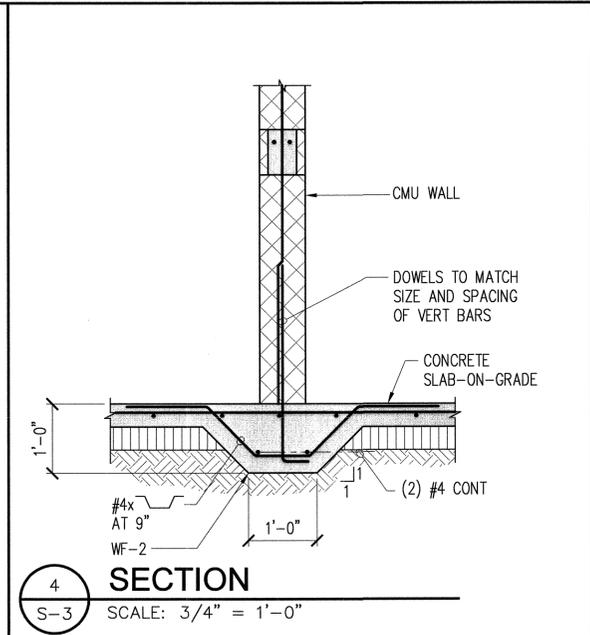
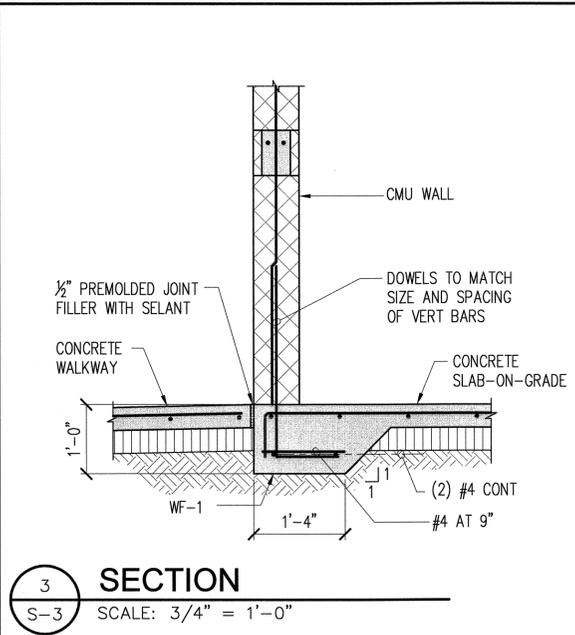
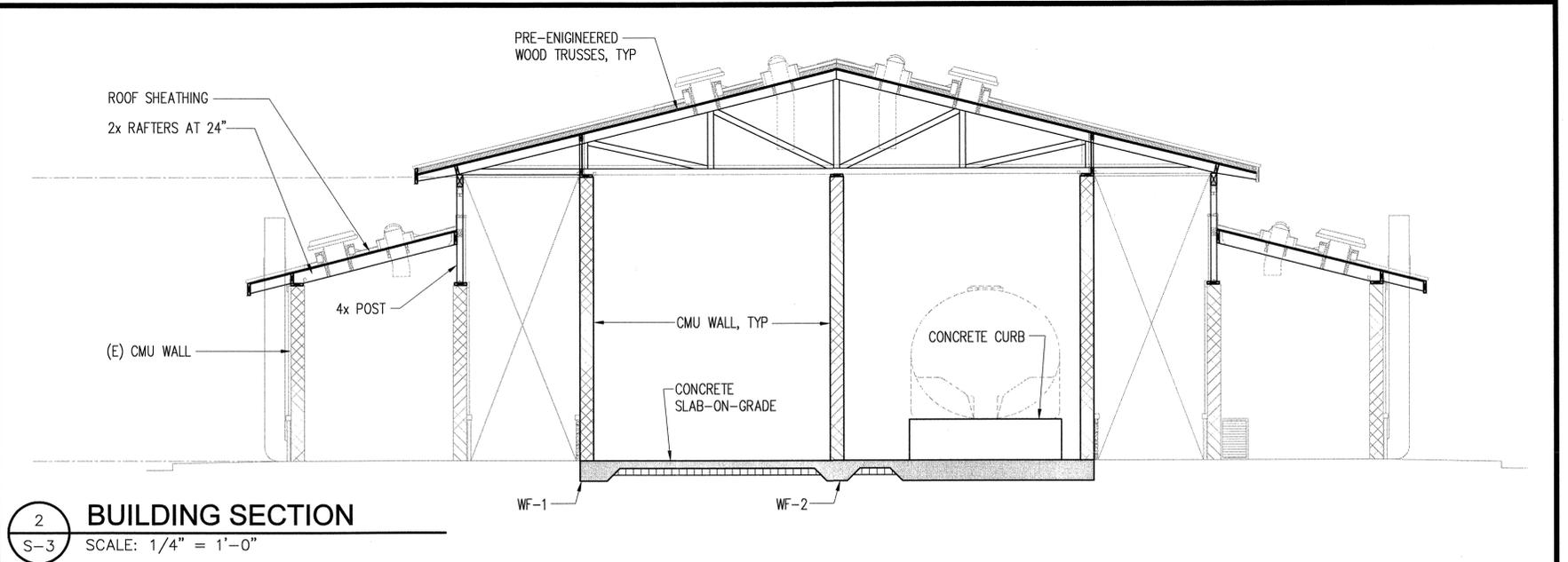
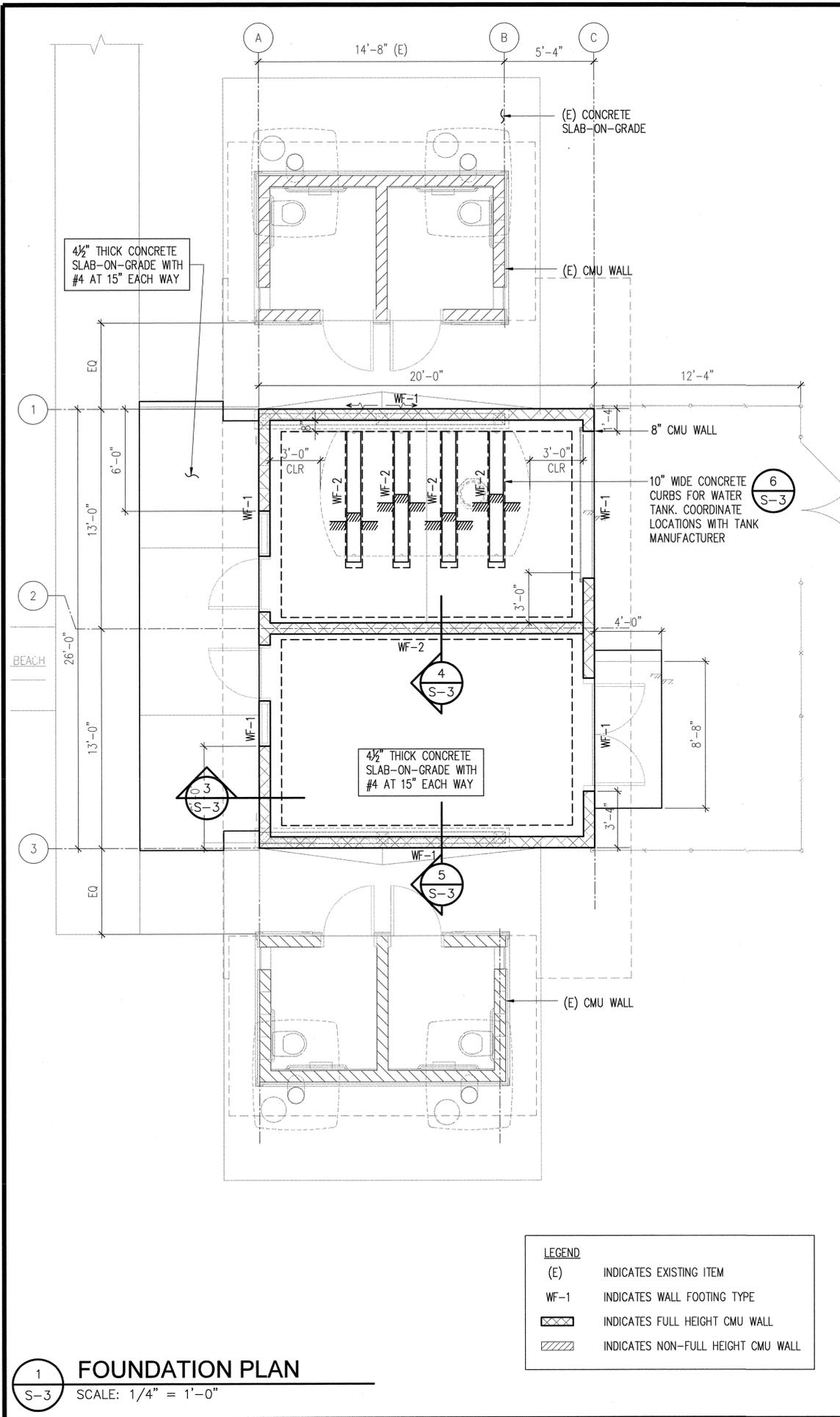
**KEKAHA KAI STATE PARK  
 MAHAULA IMPROVEMENTS**

**TYPICAL DETAILS**

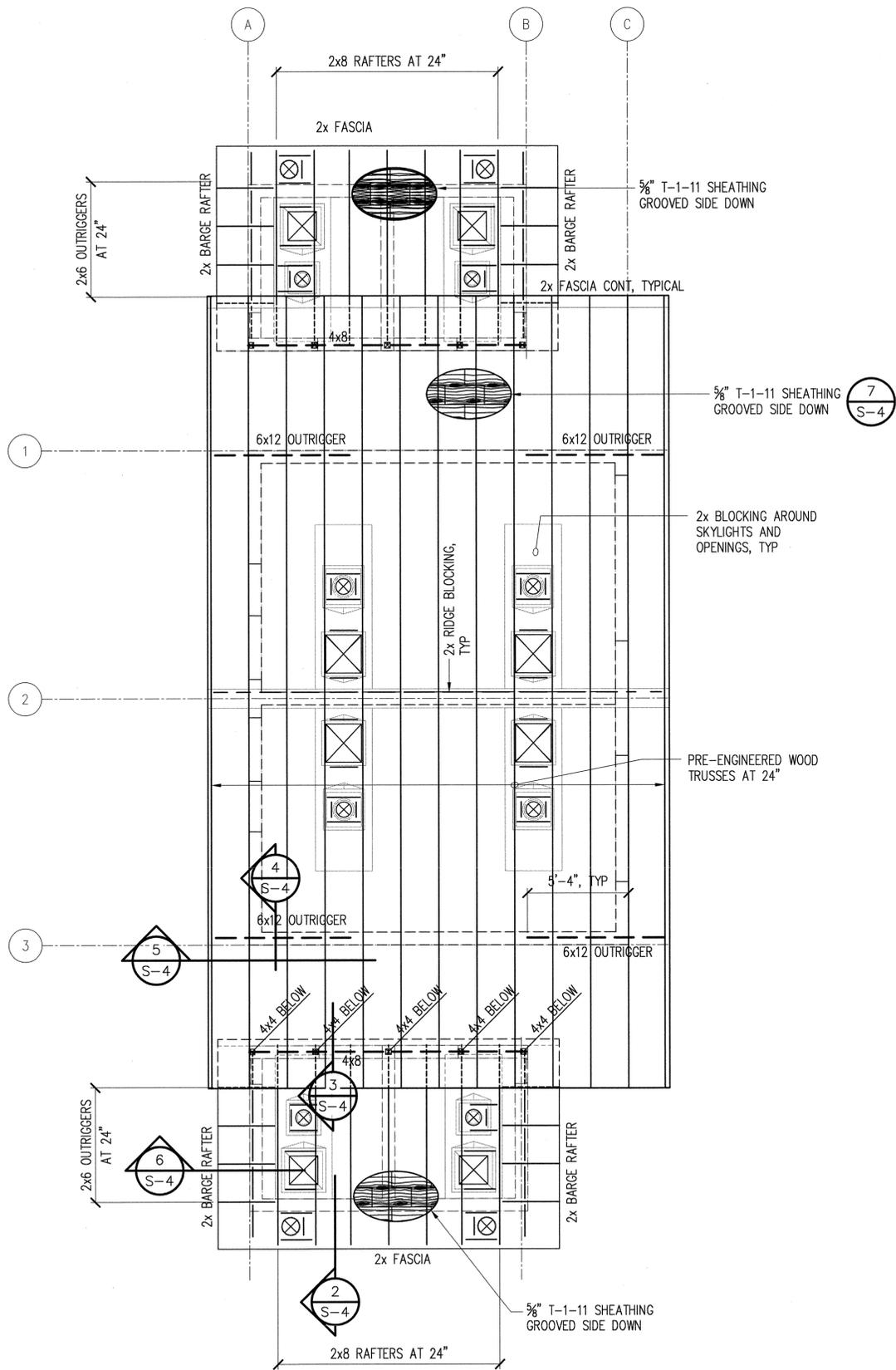
DESIGNED: JM  
 DRAWN: CADD  
 CHECKED: KH  
 APPROVED: *[Signature]*  
 CHIEF ENGINEER

SUBMITTED: *[Signature]*  
 DATE: APRIL 2016  
 SCALE: AS NOTED  
 DRAWING NO. **S-2**

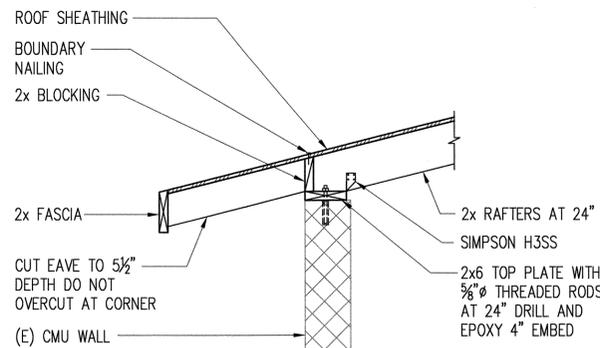
THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
 Expiration Date of License 4/30/18



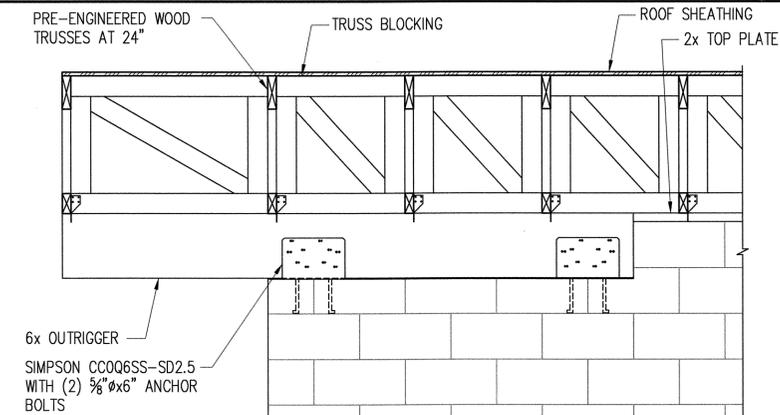
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEKAHA KAI STATE PARK            MAHAULA IMPROVEMENTS</b> <b>FOUNDATION PLAN AND SECTIONS</b>					
		THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. APPROVED: <i>[Signature]</i> CHIEF ENGINEER			
DESIGNED: JM	DRAWN: CADD	CHECKED: KH	APPROVED: <i>[Signature]</i>	SUBMITTED: <i>[Signature]</i> DATE: APRIL 2016 SCALE: AS NOTED APR 25 2016	DRAWING NO. <b>S-3</b> DATE



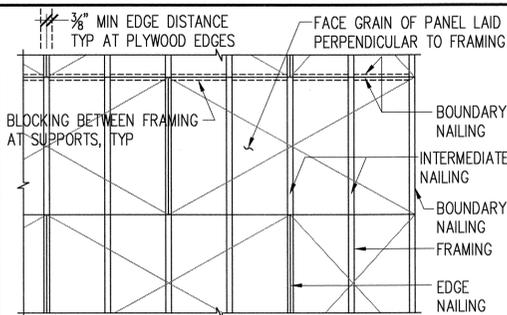
1 ROOF FRAMING PLAN  
S-4 SCALE: 1/4" = 1'-0"



2 SECTION  
S-4 SCALE: 3/4" = 1'-0"



3 SECTION  
S-4 SCALE: 3/4" = 1'-0"

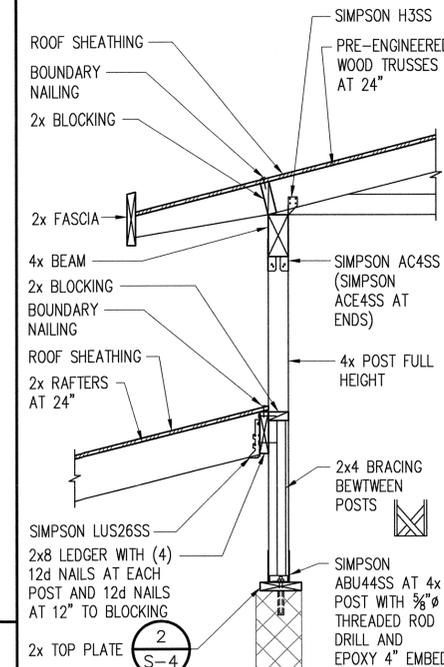


5 SECTION  
S-4 SCALE: 3/4" = 1'-0"

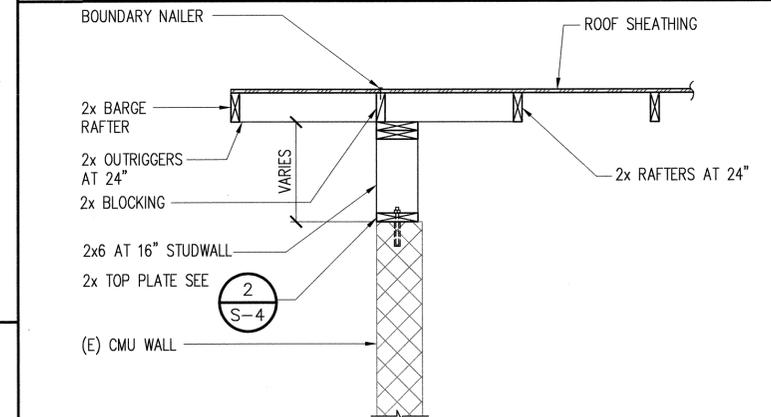
FASTENING SCHEDULE

LOCATION	EDGE	BOUNDARIES	INTERMEDIATE	REMARKS
ROOF	8d AT 6"	8d AT 6"	8d AT 12"	

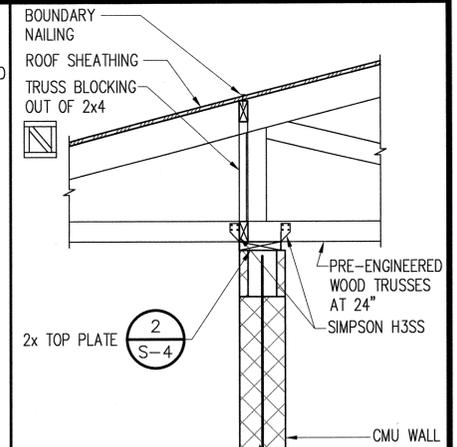
7 TYPICAL SHEATHING SCHEDULE  
S-4 NOT TO SCALE



3 SECTION  
S-4 SCALE: 3/4" = 1'-0"



6 SECTION  
S-4 SCALE: 3/4" = 1'-0"

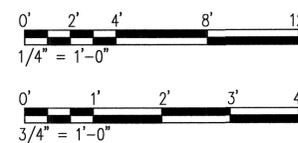


4 SECTION  
S-4 SCALE: 3/4" = 1'-0"

NOTE: GROUT CELLS TO RECEIVE THREADED RODS IF THEY ARE UNGROUTED

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REVISION NO.	SYMBOL	DESCRIPTION	SHT. OF	DATE	APPROVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

KEKAHA KAI STATE PARK  
MAHAULA IMPROVEMENTS

ROOF FRAMING PLAN AND SECTIONS

DESIGNED: JM  
DRAWN: CADD  
CHECKED: KH  
APPROVED: [Signature]  
CHIEF ENGINEER

SUBMITTED: [Signature]  
DATE: APRIL 2016  
SCALE: AS NOTED  
DRAWING NO. S-4

THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

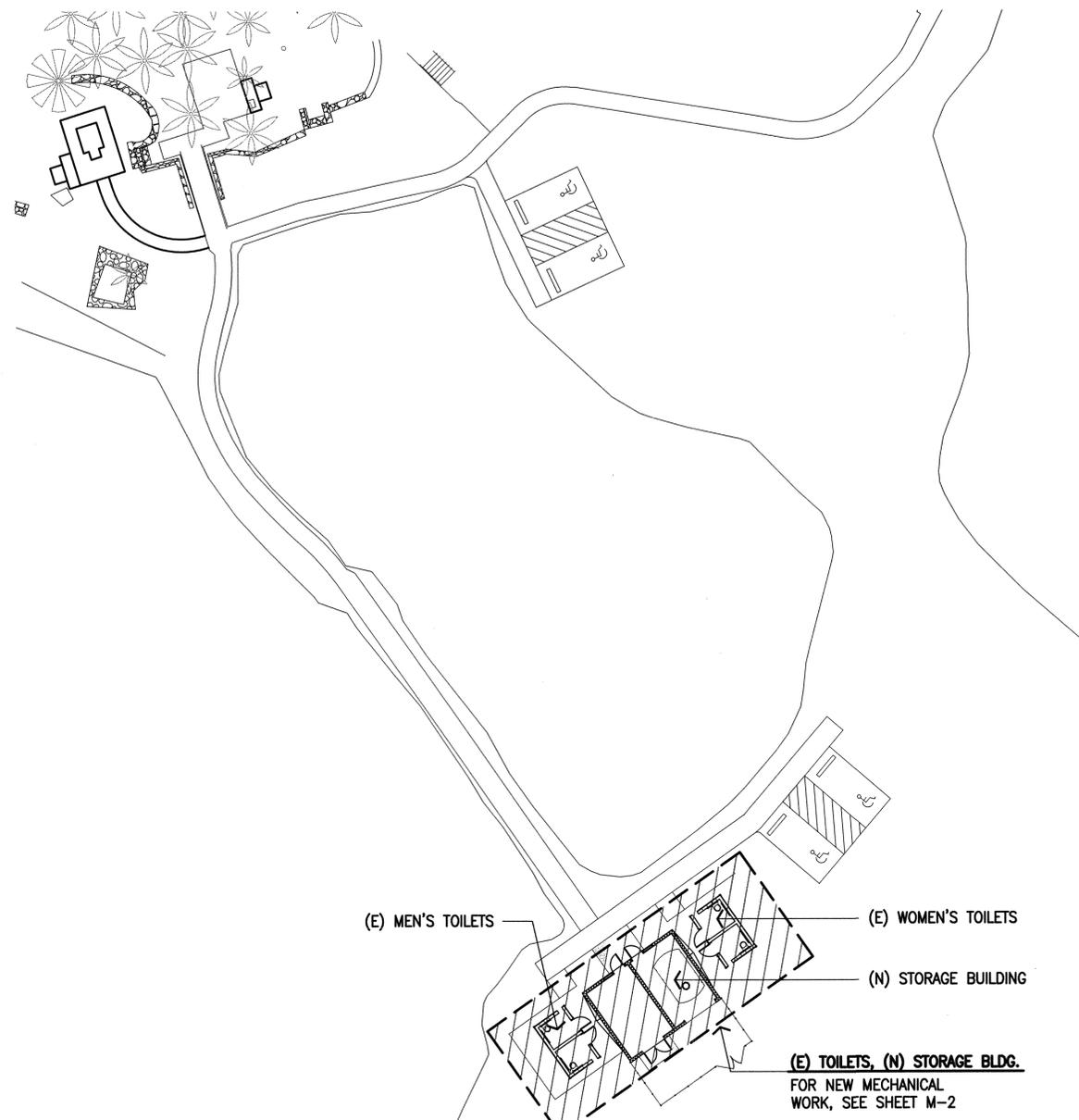
Jonathan D. Mural  
LICENSED PROFESSIONAL ENGINEER  
No. 10979-S  
HAWAII, U.S.A.  
Expiration Date of License 1/30/18

APR 25 2016  
DATE

MECHANICAL LEGEND		
SYMBOLS	ABBR.	DESCRIPTION
		EXISTING TO REMAIN
		NEW MECHANICAL WORK
	(E)	EXISTING
	(N)	NEW
		EXISTING TO BE REMOVED
	CW	COLD WATER
	BV	BALL VALVE

**GENERAL NOTES:**

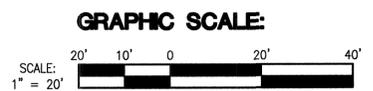
- THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE COUNTY OF HAWAII'S BUILDING CODE (IBC 2006), PLUMBING CODE (UPC 2006), ENERGY CODE (IECC 2006), FIRE CODE (NFPA 1, 2012), NATIONAL ELECTRICAL CODE (2008), AND ALL AGENCIES HAVING JURISDICTION.
- DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL FIELD CONDITIONS PERMIT. REASONABLE MODIFICATIONS TO SUIT JOB CONDITIONS SHALL NOT CONSTITUTE A BASIS FOR ADDITIONAL COMPENSATION.
- PROMPTLY NOTIFY AND COORDINATE WITH THE CONTRACTING OFFICER ANY DISCREPANCIES OR MAJOR DEVIATIONS FROM THE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS WHICH PREVENT THE TERMS OF THE CONTRACT FROM BEING FULFILLED. COORDINATE THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE INSTALLATION OF WORK WITHIN THE AVAILABLE SPACE.
- OBTAIN AND PAY FOR ALL APPLICABLE PERMITS, FEES, CERTIFICATES, AND INSPECTIONS.
- VERIFY ALL CONDITIONS AND DIMENSIONS RELATING TO THE PROJECT BEFORE ORDERING MATERIALS, OR COMMENCING WITH THE REQUIRED WORK.
- FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT, INCLUDING CUTTING AND PATCHING, AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS, AND CONFORM TO CODE.
- PATCH ALL SURFACES EXPOSED FROM CUTTING AND/OR REMOVAL WORK. PATCHING SHALL MATCH THE FINISH AND QUALITY OF ADJACENT SURFACES TO THE SATISFACTION OF THE CONTRACTING OFFICER.
- THE WORD "REPLACE" MEANS THE CONTRACTOR SHALL REMOVE EXISTING WORK AND PROVIDE NEW WORK AS DETAILED OR NOTED ON THE DRAWINGS.
- ALL WORK INDICATED SHALL BE NEW WORK UNLESS OTHERWISE INDICATED "EXISTING".
- ALL WASTE MATERIALS SHALL BE PROMPTLY REMOVED AND DISPOSED OF OUTSIDE THE LIMITS OF STATE PROPERTY.
- PROVIDE TEMPORARY ACCESSIBLE ROUTES AROUND CONSTRUCTION IN ACCORDANCE WITH "ADAAG 402".



**1** PARTIAL MECHANICAL SITE PLAN  
SCALE: 1" = 20'

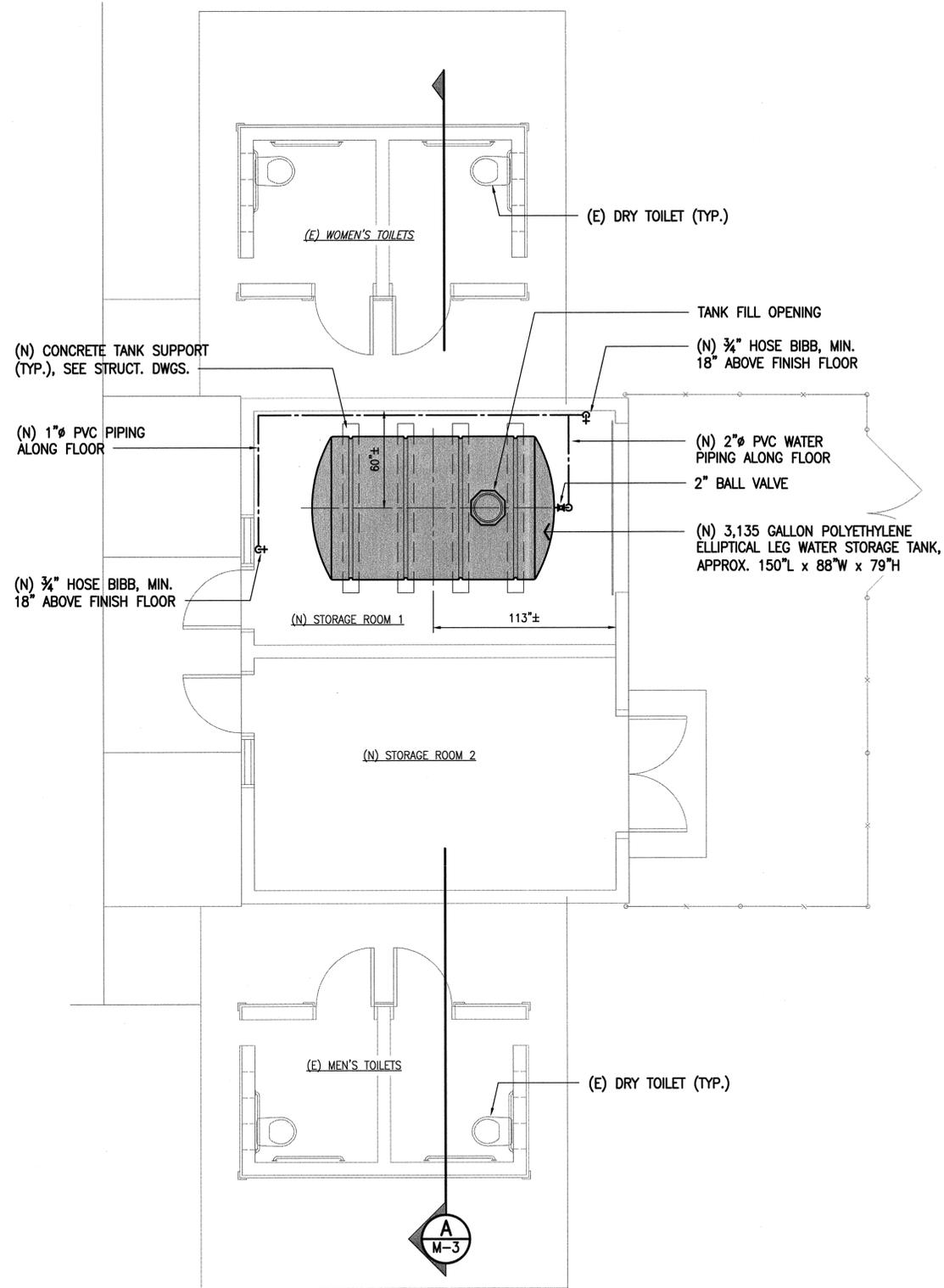
SOLAR POWERED VENTILATOR EXHAUST FAN SCHEDULE				
SYMBOL	ROOM SERVED	AIR FLOW, MINIMUM (CFM)	MOTOR	REMARKS
	EXISTING MEN'S TOILET	185	DIRECT CURRENT, VARIABLE VOLTAGE	"BROAN", CURB MOUNTED SOLAR POWERED EXHAUST FAN, MODEL 345CSOBK, OR APPROVED EQUAL
	EXISTING WOMEN'S TOILET	185	DIRECT CURRENT, VARIABLE VOLTAGE	"BROAN", CURB MOUNTED SOLAR POWERED EXHAUST FAN, MODEL 345CSOBK, OR APPROVED EQUAL
	STORAGE ROOM 1	450	DIRECT CURRENT, VARIABLE VOLTAGE	"BROAN", CURB MOUNTED SOLAR POWERED EXHAUST FAN, MODEL 345CSOBK, OR APPROVED EQUAL
	STORAGE ROOM 2	450	DIRECT CURRENT, VARIABLE VOLTAGE	"BROAN", CURB MOUNTED SOLAR POWERED EXHAUST FAN, MODEL 345CSOBK, OR APPROVED EQUAL

**DEPARTMENT OF HEALTH NOTE**  
THE VENTILATION SYSTEM SHALL COMPLY WITH TITLE 11, ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, CHAPTER 39, AIR CONDITIONING AND VENTILATING REQUIREMENTS.



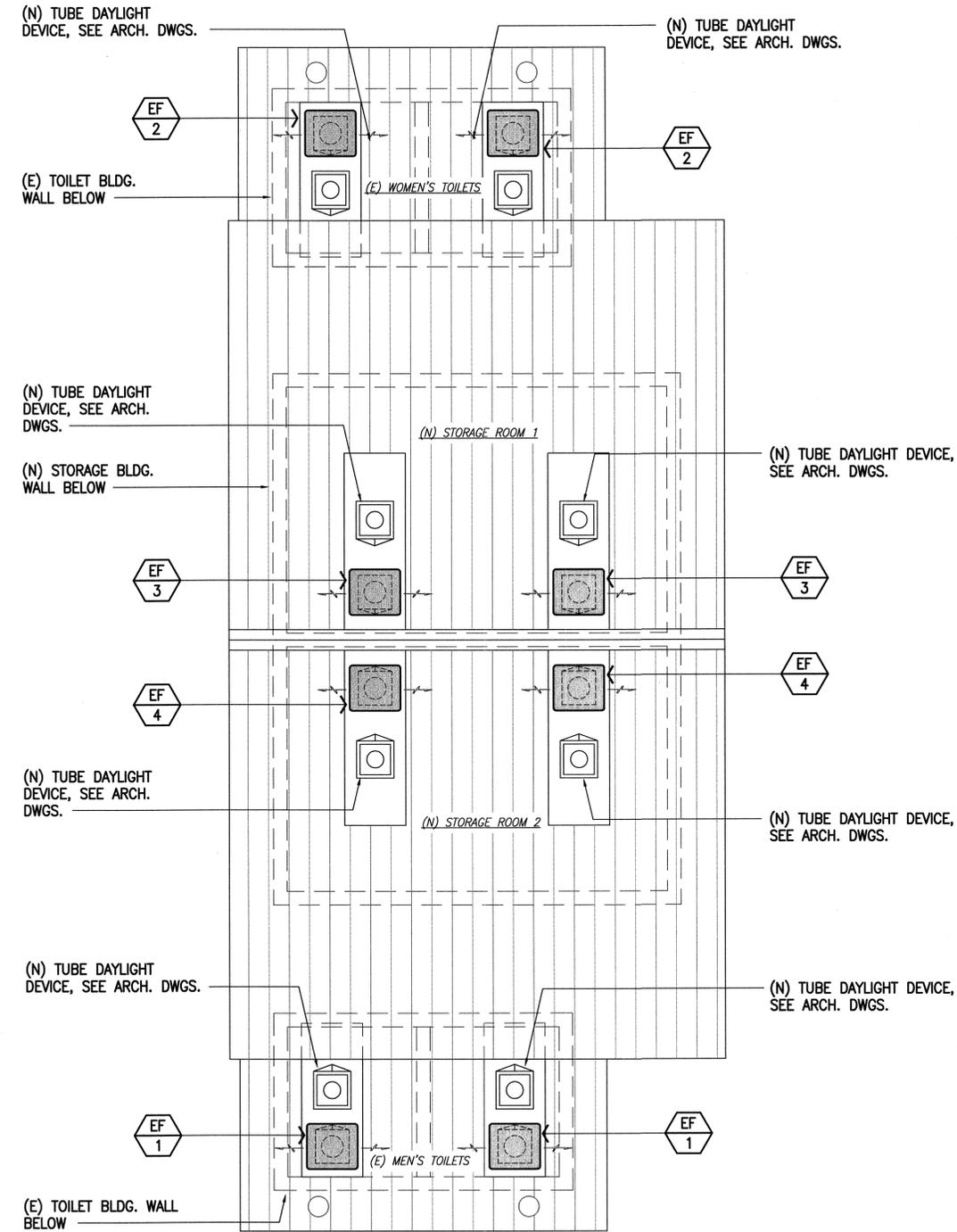
IF THIS SHEET IS LESS THAN 34"x22", IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

REVISION NO.	SYMBOL	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEKAHA KAI STATE PARK            MAHAULA IMPROVEMENTS</b> MECHANICAL LEGEND, NOTES, PARTIAL MECHANICAL SITE PLAN, SCHEDULES					
		THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. APPROVED: <i>Tyson T. Toyama</i> CHIEF ENGINEER Expiration Date of License 4/30/18			
DESIGNED: RDL	SUBMITTED: <i>RD</i>	DATE: APRIL 2016	DRAWING NO. M-1		
DRAWN: RDL	CHECKED: TTT	SCALE: AS NOTED	DATE: APR 25 2016		

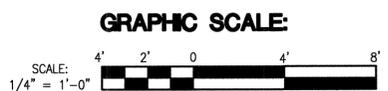


**1**  
MECHANICAL FLOOR PLAN  
SCALE: 1/4" = 1'-0"

- NOTES:**
1. PROVIDE THEFT-RESISTANT FASTENERS FOR ALL ACCESSORY MOUNTINGS.
  2. ALL FASTENERS SHALL BE STAINLESS STEEL WITH THEFT-RESISTANT TYPE HEADS OR NUTS.



**2**  
MECHANICAL ROOF PLAN  
SCALE: 1/4" = 1'-0"

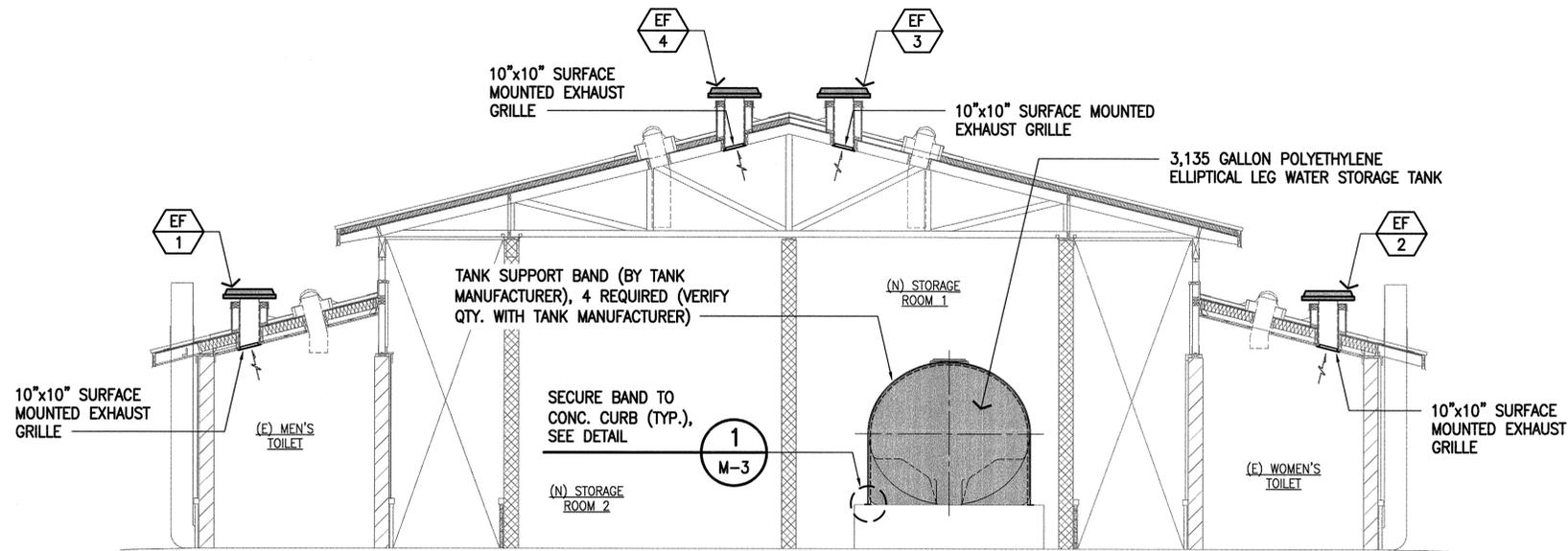


IF THIS SHEET IS LESS THAN 34"x22", IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

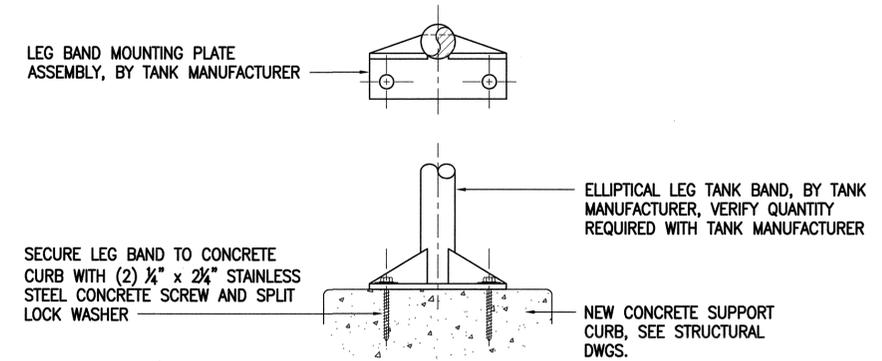
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED

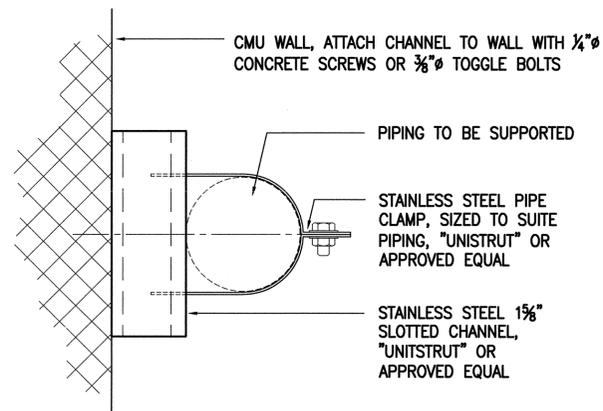
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION	
KEKAHA KAI STATE PARK MAHAULA IMPROVEMENTS	
NEW MECHANICAL FLOOR AND ROOF PLANS	
DESIGNED: RDL	SUBMITTED: <i>cc</i>
DRAWN: RDL	DATE: APRIL 2016
CHECKED: TTT	SCALE: AS NOTED
APPROVED: <i>[Signature]</i>	DATE: APR 25 2016
CHIEF ENGINEER	DRAWING NO. M-2



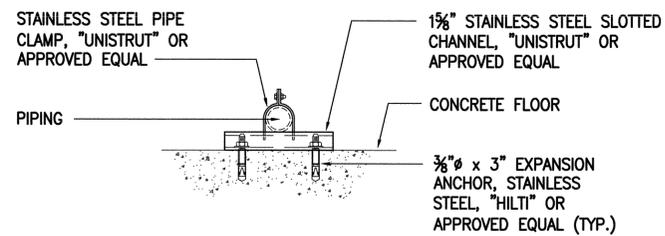
**A** MECHANICAL SECTION  
M-3 SCALE: 1/4" = 1'-0"



**1** LEG BAND ATTACHMENT DETAIL  
M-3 NOT TO SCALE



**2** PIPING WALL SUPPORT DETAIL  
M-3 NOT TO SCALE



**3** PIPING FLOOR SUPPORT DETAIL  
M-3 NOT TO SCALE

**NOTES:**

1. PROVIDE THEFT-RESISTANT FASTENERS FOR ALL ACCESSORY MOUNTINGS.
2. ALL FASTENERS SHALL BE STAINLESS STEEL WITH THEFT-RESISTANT TYPE HEADS OR NUTS.

**GRAPHIC SCALE:**



IF THIS SHEET IS LESS THAN 34"x22", IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KEKAHA KAI STATE PARK MAHAUULA IMPROVEMENTS					
MECHANICAL SECTIONS, DETAILS					
DESIGNED: RDL		SUBMITTED: <i>ce</i>			
DRAWN: RDL		DATE: APRIL 2016			
CHECKED: TTT		SCALE: AS NOTED			
APPROVED: <i>Jason T. Toyama</i>		DATE: APR 25 2016		DRAWING NO. M-3	
Expiration Date of License 4/30/18		CHIEF ENGINEER			