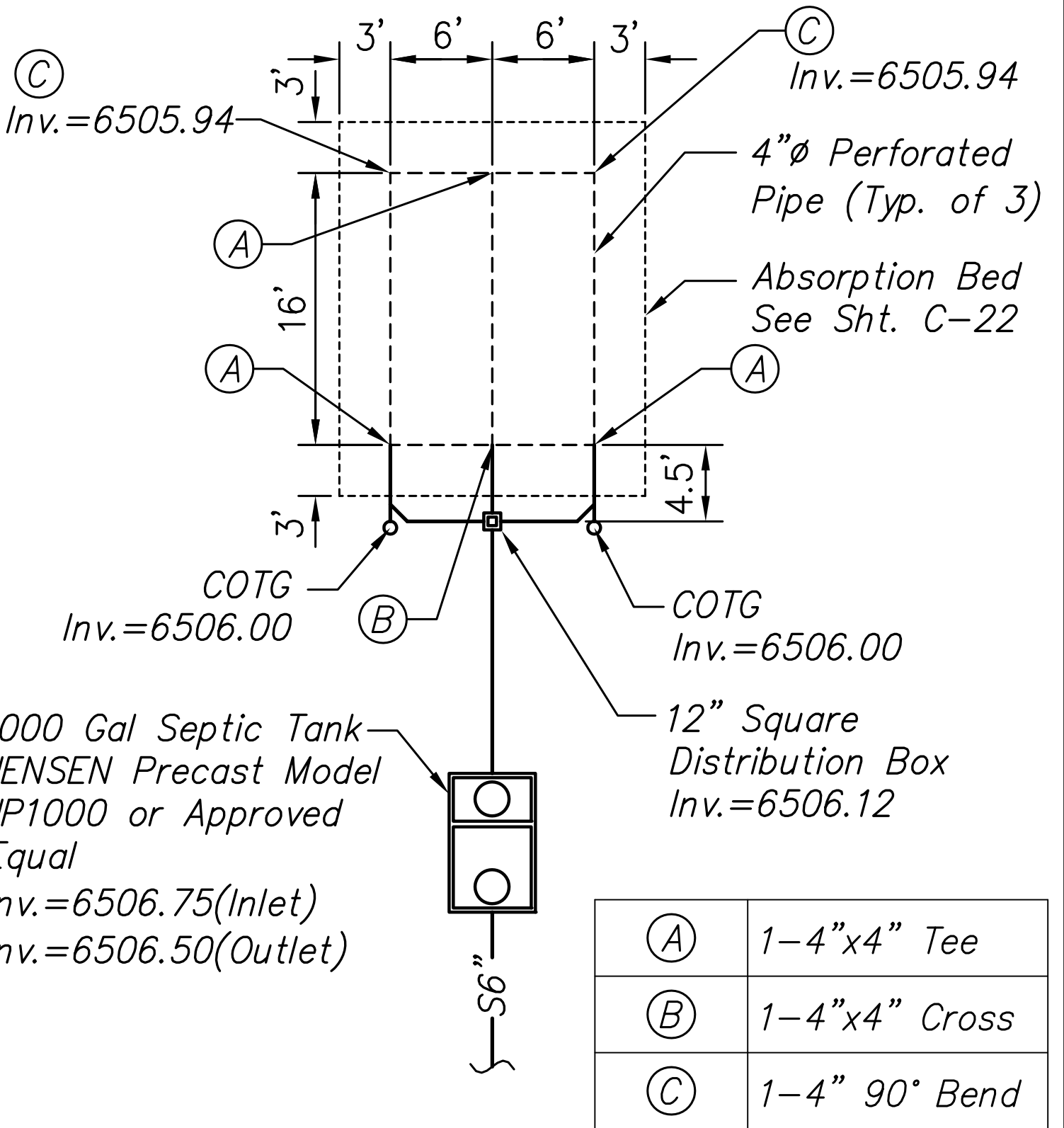


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD.17	146

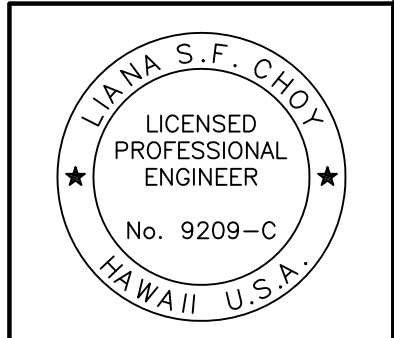
Notes:

1. Contractor shall provide all necessary fittings and appurtenances required for utility installation and connection.



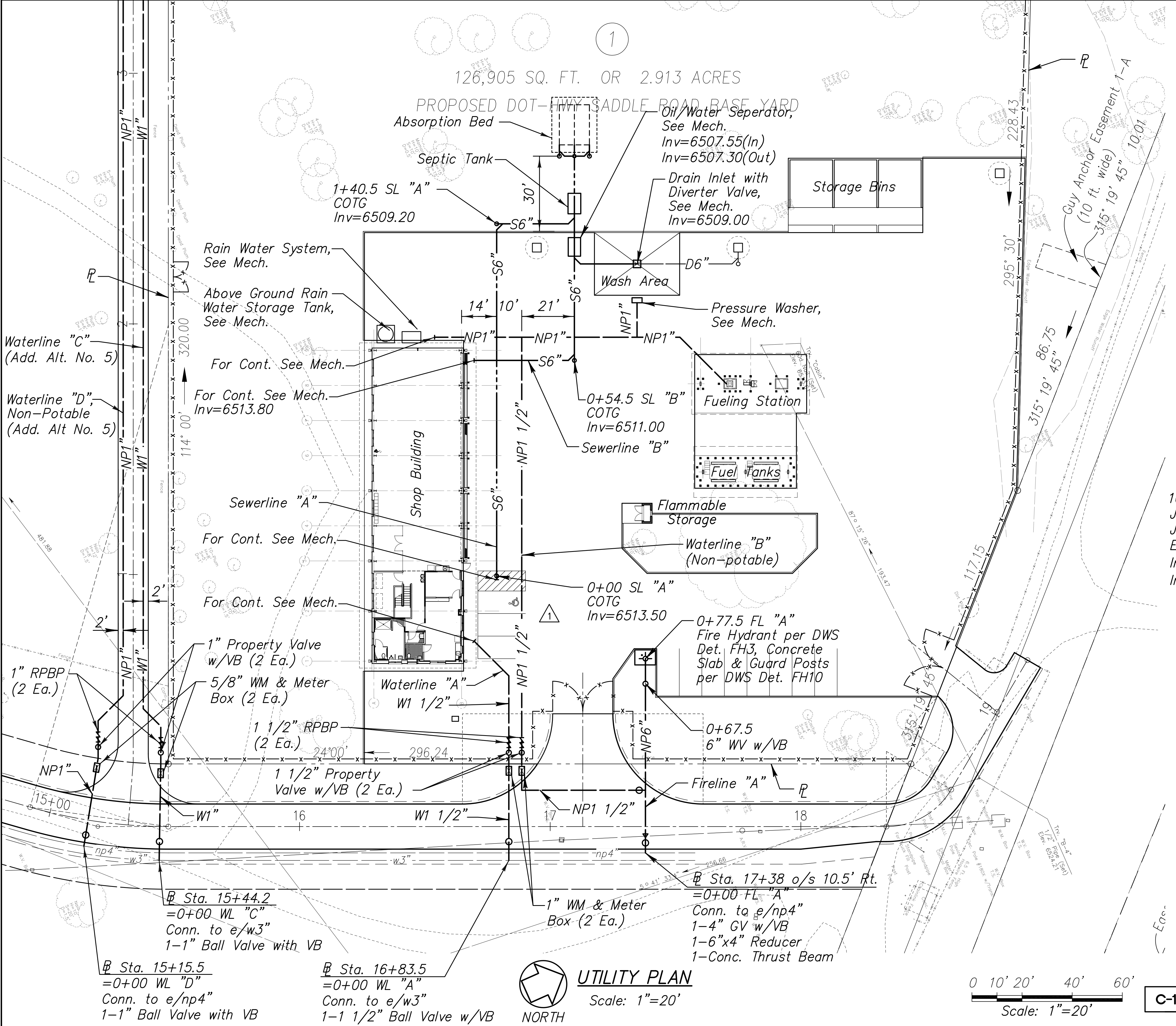
SHOP BUILDING
WASTEWATER DISPOSAL LAYOUT
Scale: 1/8"=1'-0"

06-07-18	1 REVISED NP WATER & SEWER
DATE	REVISION



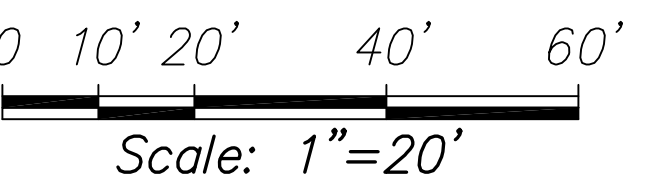
SIGNATURE
EXPIRATION DATE OF THE LICENSE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY PLAN
MAUNA KEA MAINTENANCE
BASEYARD
DANIEL K. INOUE HIGHWAY
Project No. 200A-01-10
Scale: As Shown Date: April, 2018



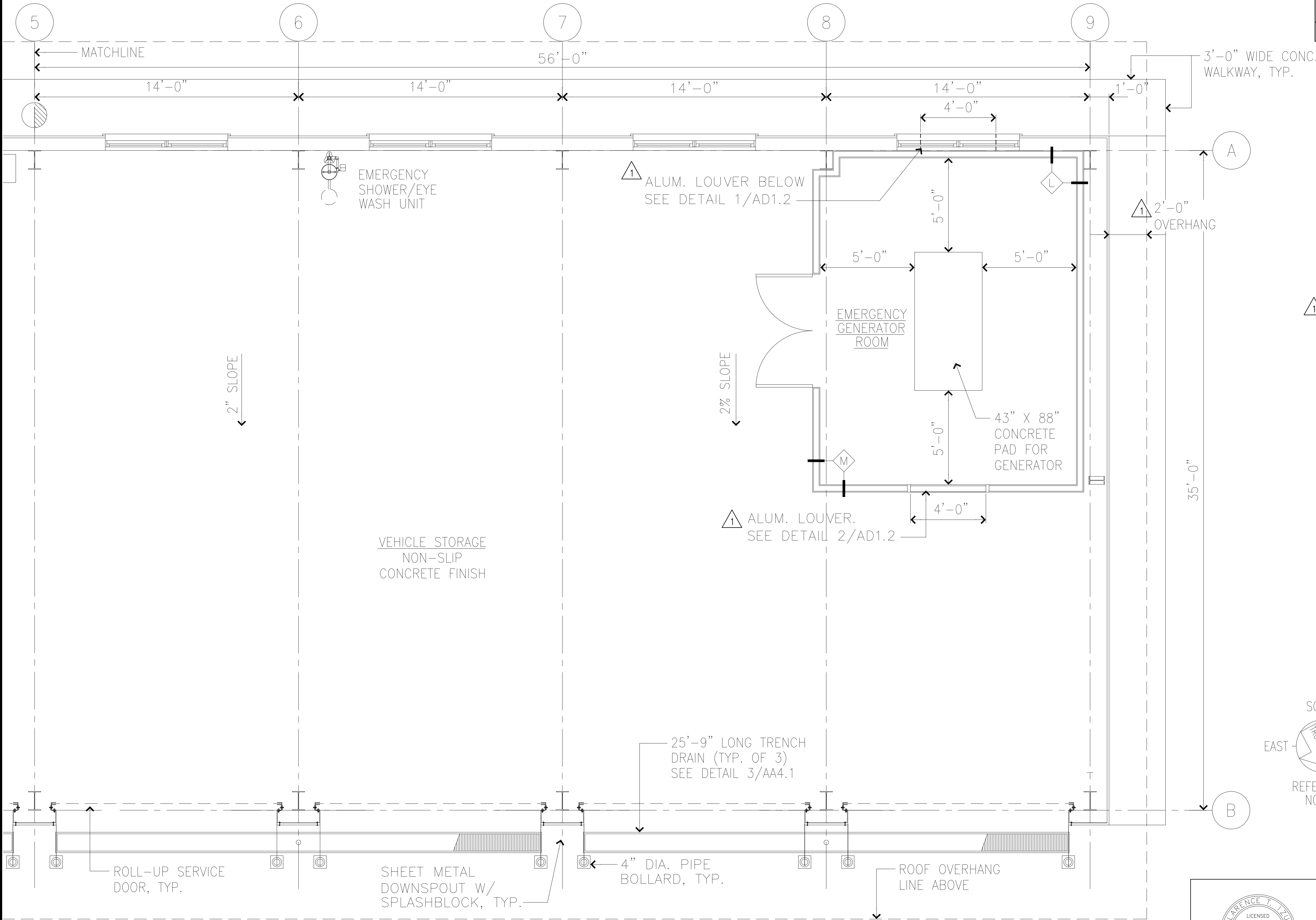
DATE	_____
ORIGINAL PLAN	_____
DESIGNED BY	_____
TRACED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

UTILITY PLAN
Scale: 1"=20'

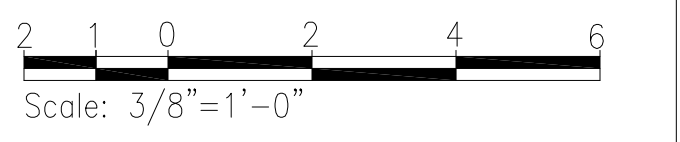
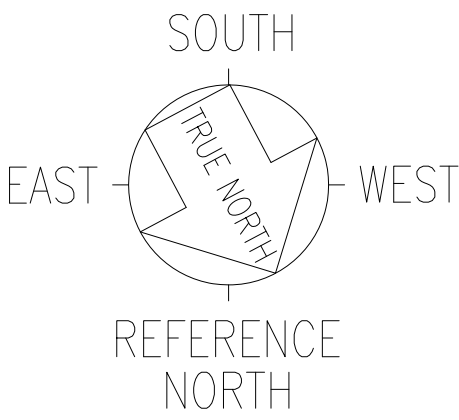


C-13

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 36	146



NOTE:
PROVIDE 6 SQ. FT. FREE AREA
FOR EACH LOUVER SHOWN IN
EMERGENCY GENERATOR ROOM.



06-07-18	1	ADD LOUVERS, ROOF OVERHANG DIMENSION, & LOUVER NOTE
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>SHOP BUILDING</u> <u>MAUNA KEA MAINTENANCE</u> <u>BASEYARD</u> <u>DANIEL K. INOUE HIGHWAY</u> <u>Project No. 200A-01-10</u> Scale: As noted Date: April 2018		
SHEET No. AA1.5 OF 46 SHEETS		

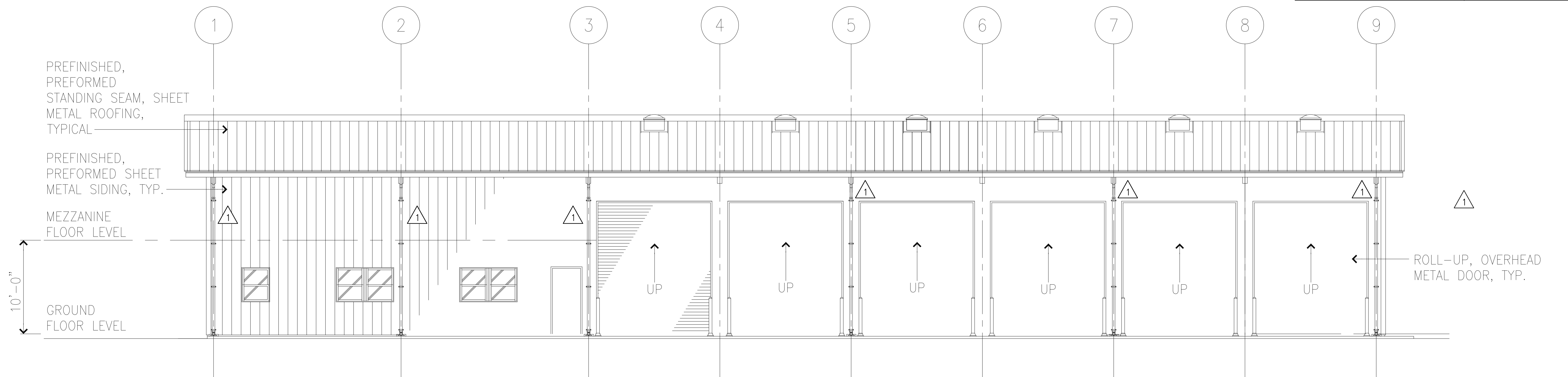
C.T. Izuo
04-30-20
SIGNATURE EXP. DATE OF THE LICENSE
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

1	06-07-18	ADDENDUM NO. 4	
REVISION	DATE	DESCRIPTION	AA15

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

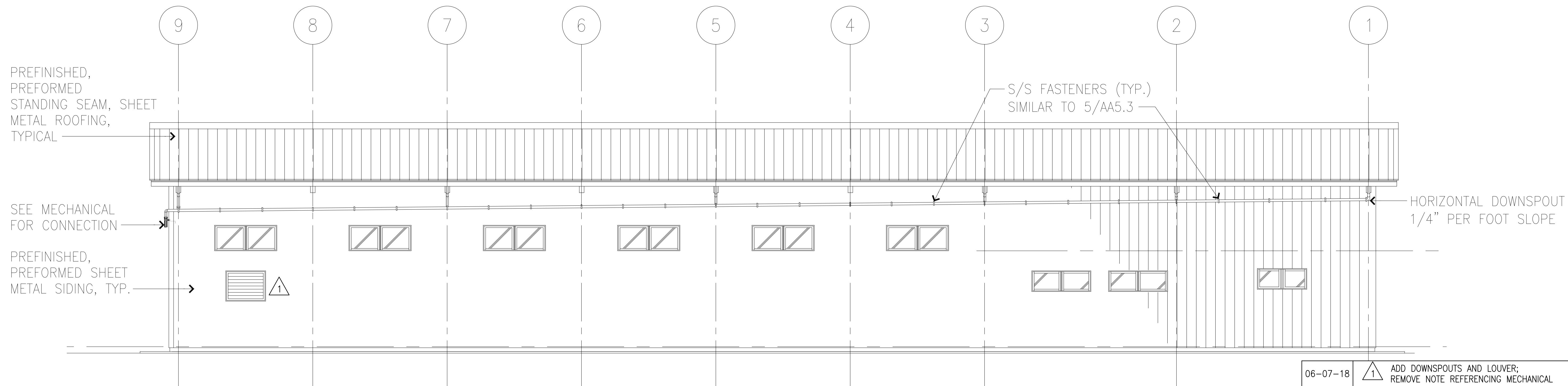
DETAIL FLOOR PLAN
SCALE: 3/8" = 1'-0"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 37	146



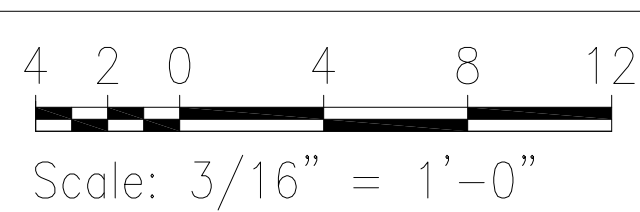
NORTH EXTERIOR ELEVATION

SCALE: 3/16" = 1'-0"

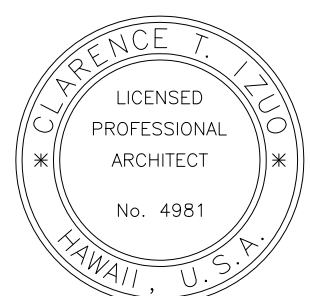


SOUTH EXTERIOR ELEVATION

SCALE: 3/16" = 1'-0"



06-07-18	1	ADD DOWNSPOUTS AND LOUVER; REMOVE NOTE REFERENCING MECHANICAL
DATE	REVISION	



C.T. Leao 04-30-20
SIGNATURE EXP. DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SHOP BUILDING
MAUNA KEA MAINTENANCE BASEYARD
DANIEL K. INOUE HIGHWAY
Project No. 200A-01-10

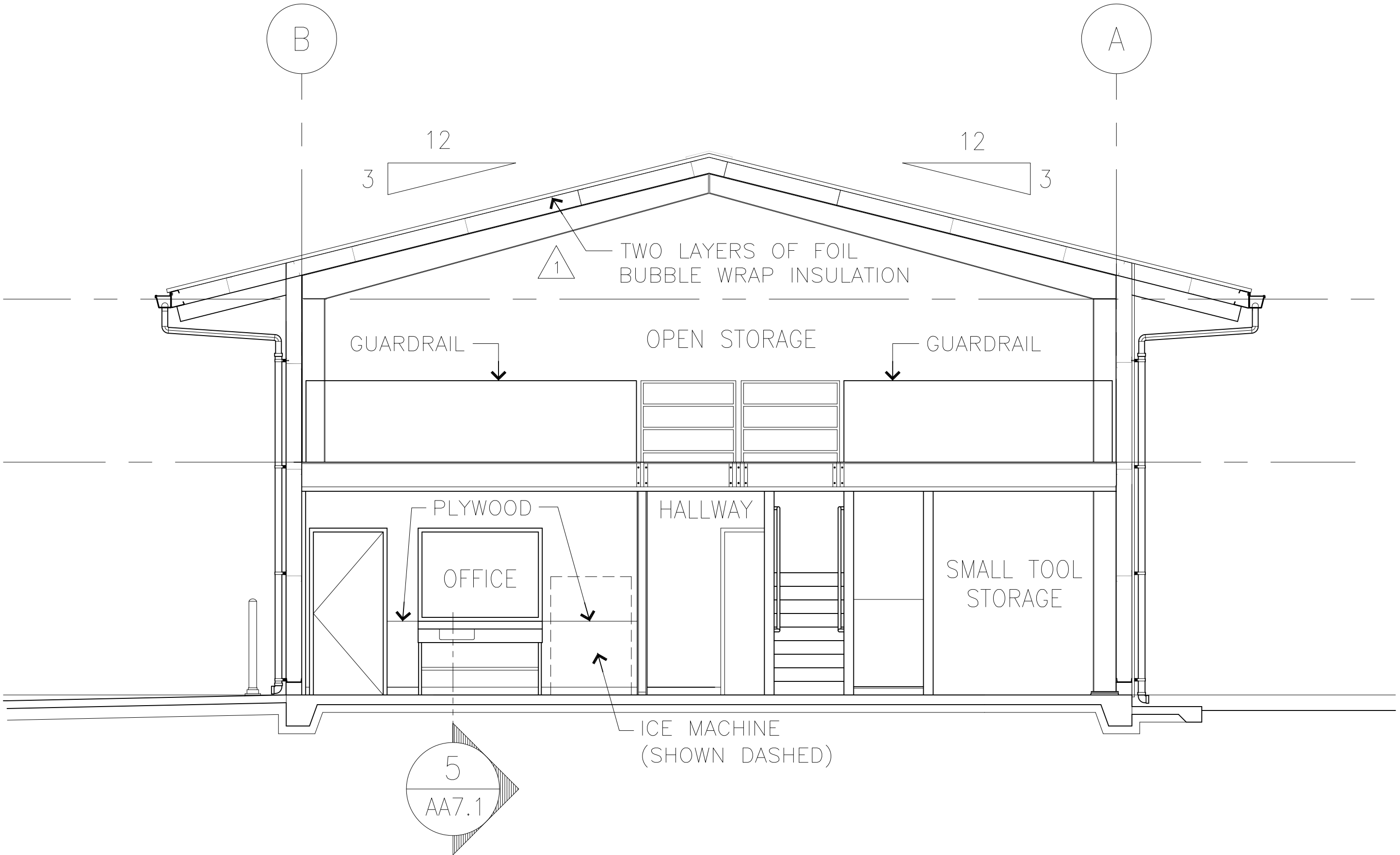
Scale: As noted Date: April 2018

SHEET No. AA2.1 OF 46 SHEETS

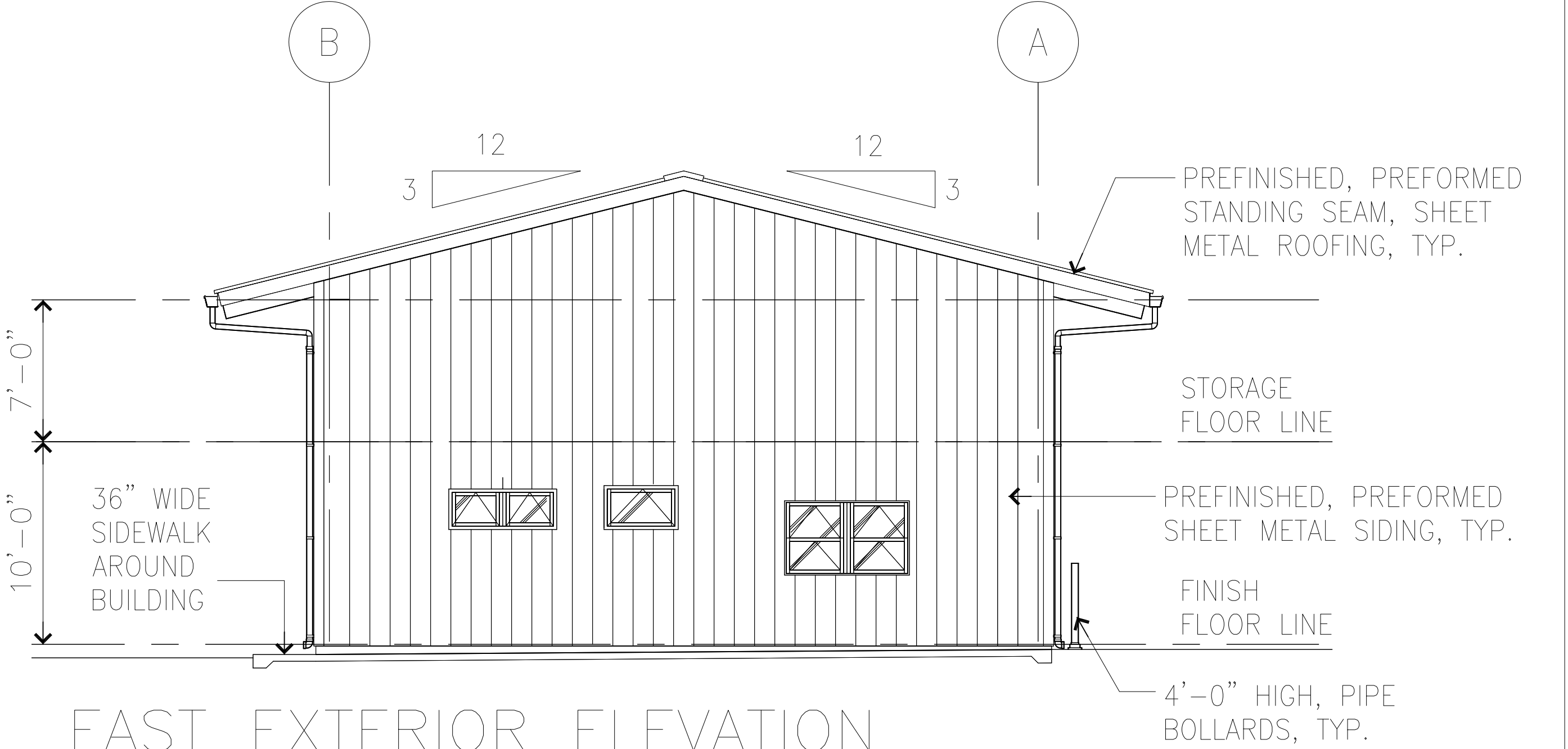
AA2.1

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

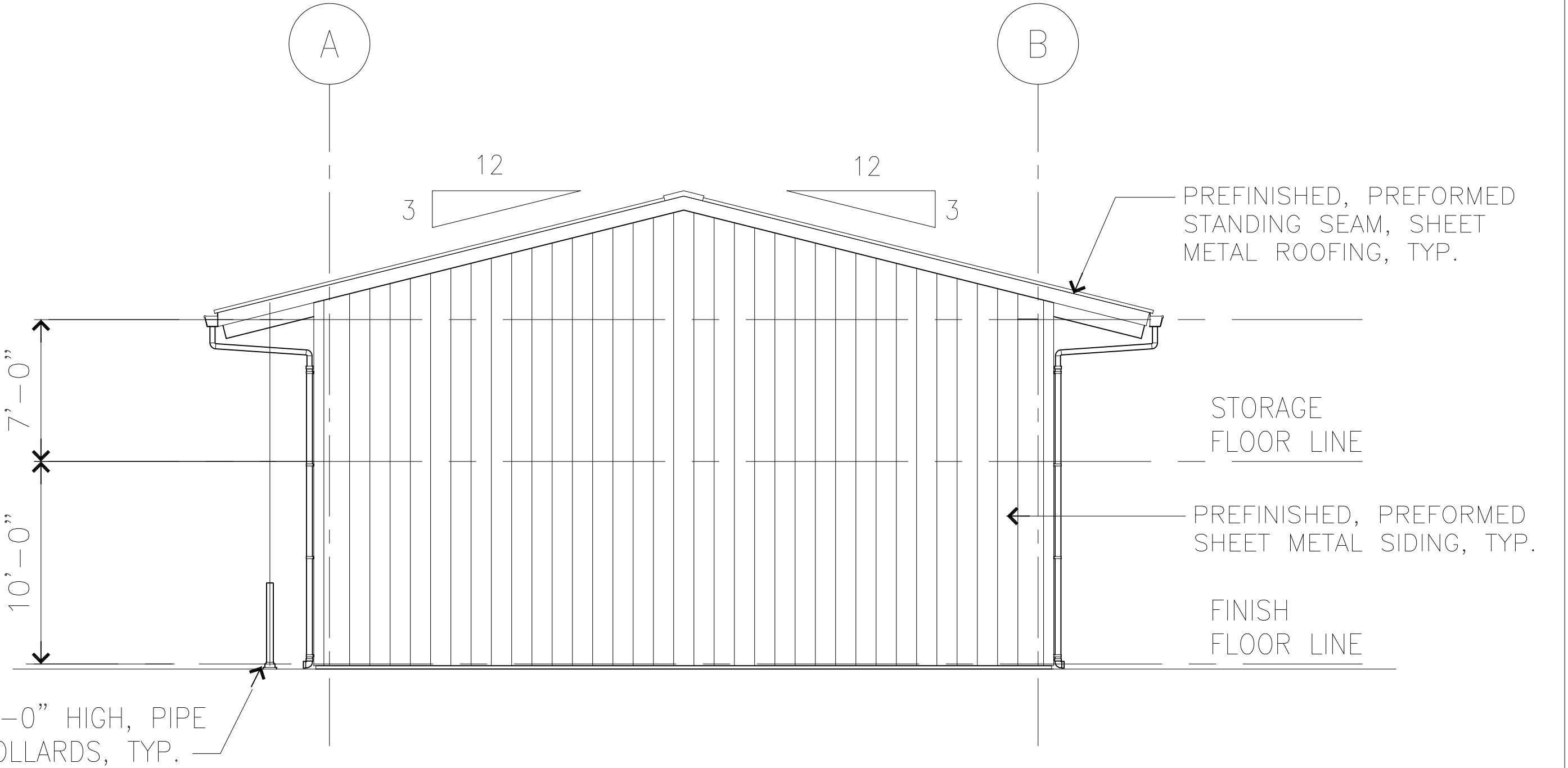
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 38	146



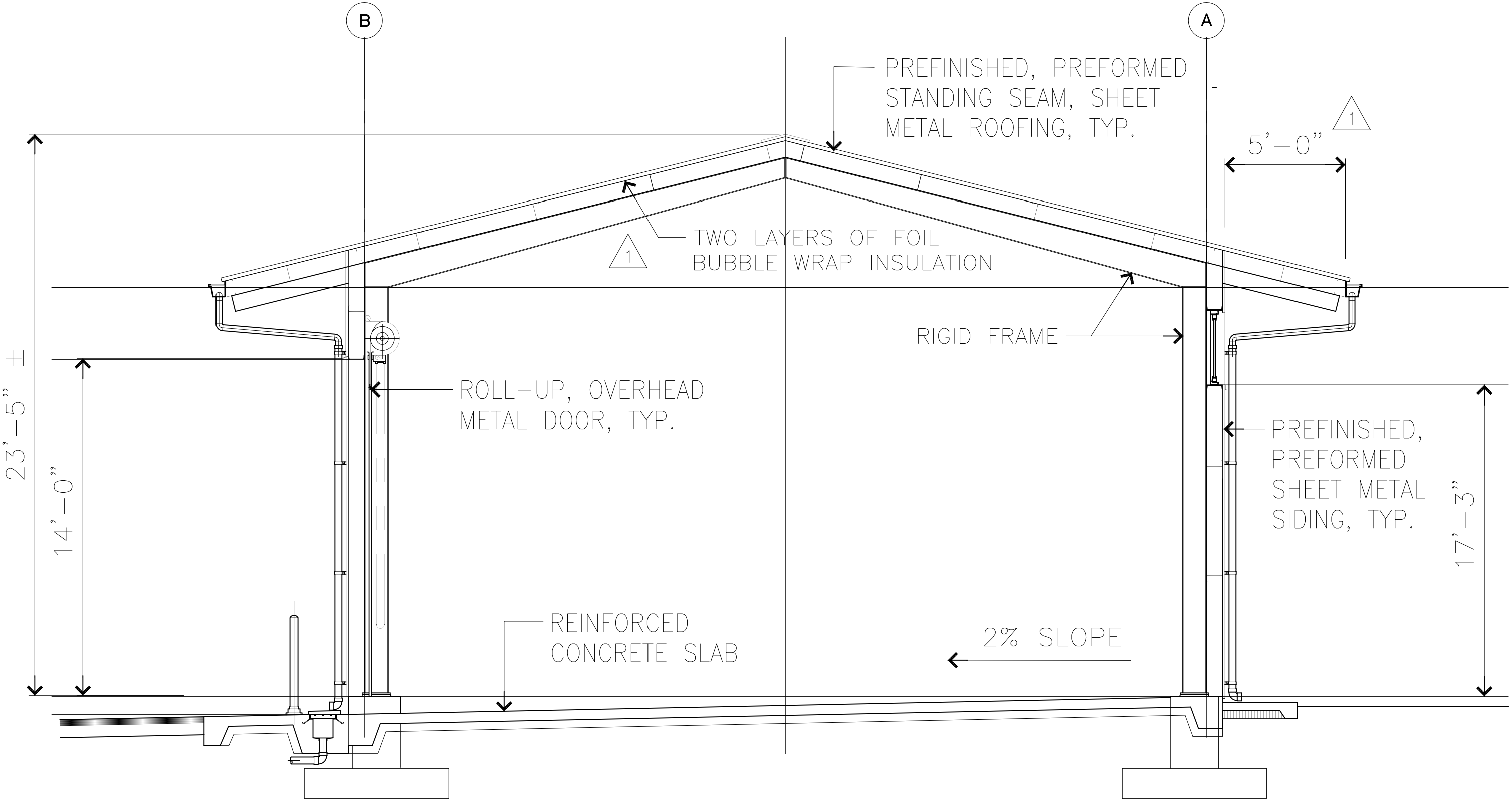
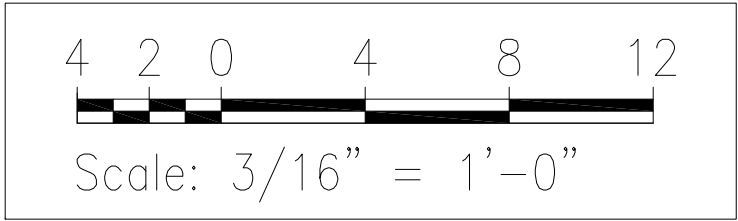
SHOP BUILDING CROSS SECTION
SCALE: 1/4" = 1'-0"



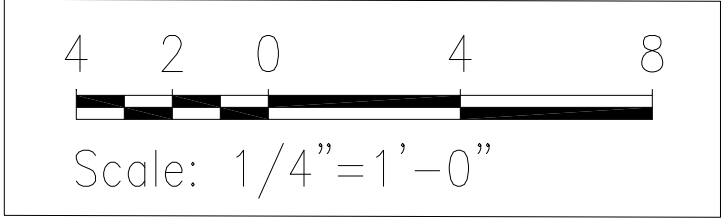
EAST EXTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



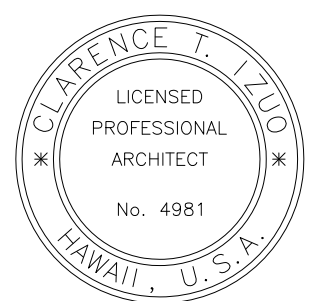
WEST EXTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



SHOP BUILDING CROSS SECTION
SCALE: 1/4" = 1'-0"



06-07-18	1	REVISED DIMENSION AND INSULATION LOCATION
DATE	REVISION	



C.T.L. 04-30-20
SIGNATURE EXP. DATE OF THE LICENSE
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SHOP BUILDING
MAUNA KEA MAINTENANCE
BASEYARD
DANIEL K. INOUE HIGHWAY

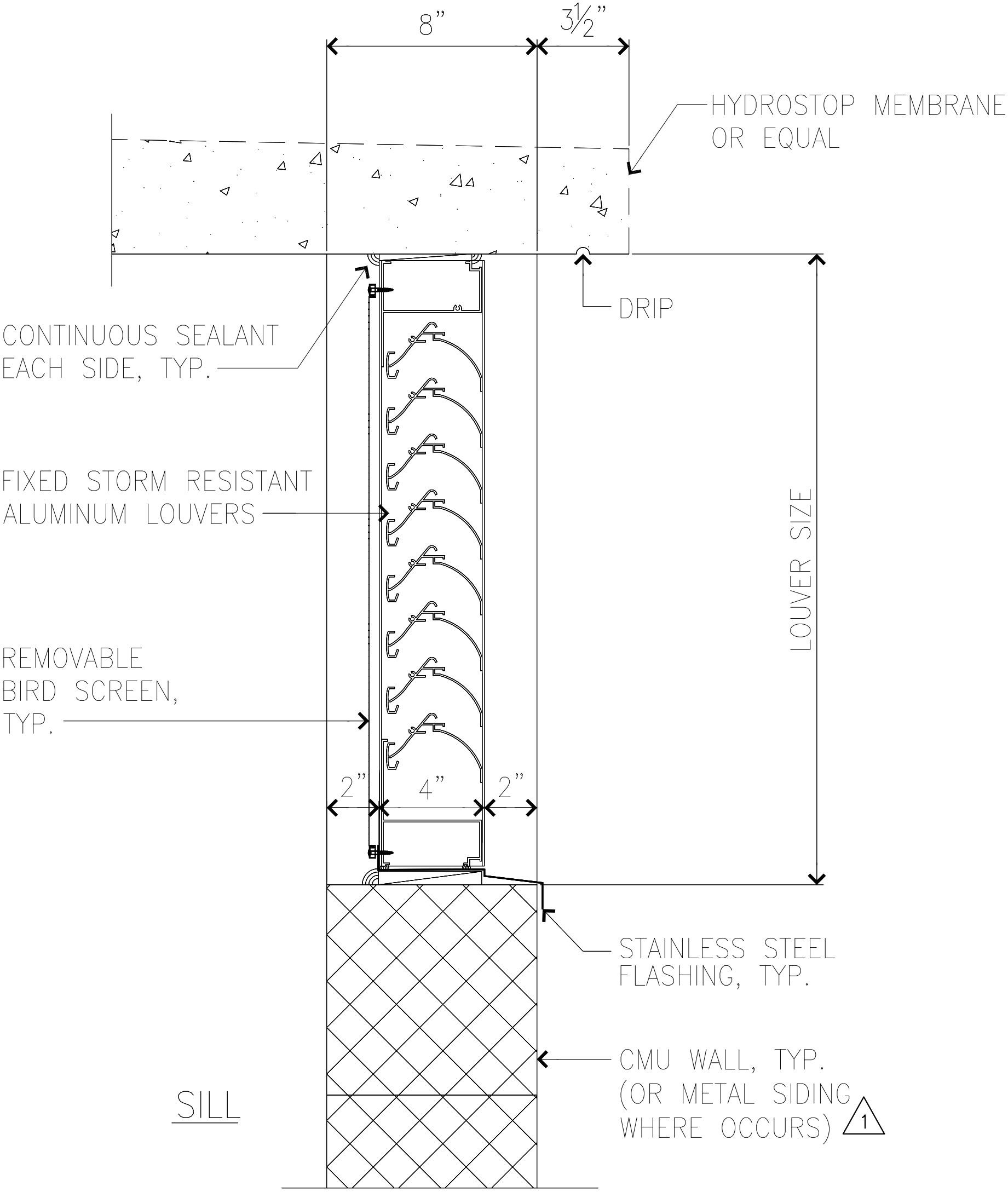
Project No. 200A-01-10
Scale: As noted Date: April 2018

SHEET No. AA2.2 OF 46 SHEETS

AA22

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

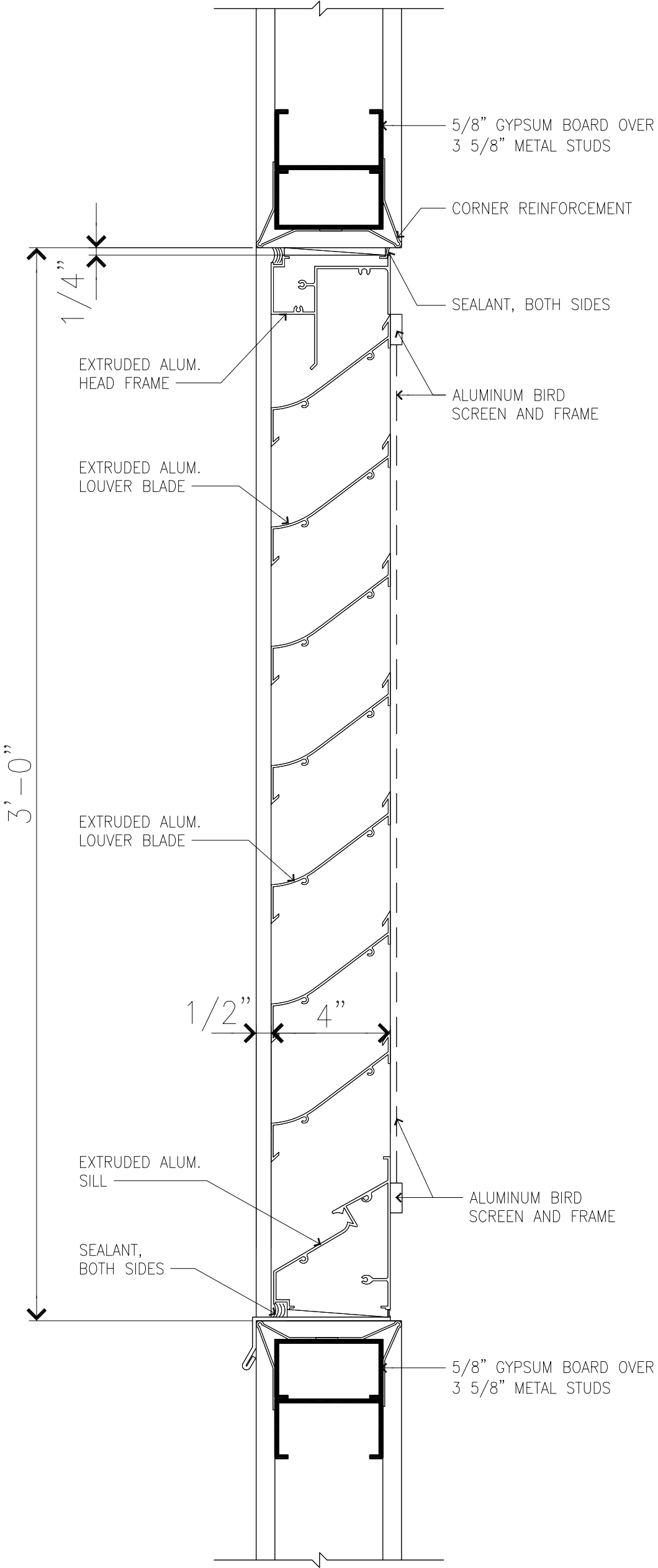
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 64	146



1 LOUVER SECTION
AD12 SCALE: 3" = 1'-0"

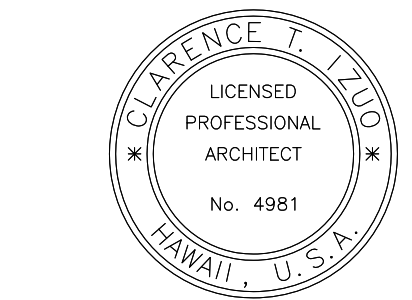
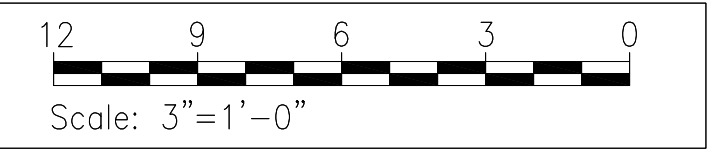
GENERAL NOTES:

- A. FIXED STORM RESISTANT LOUVER SHALL BE 5-INCH DEEP STORM RESISTANT HORIZONTAL LOUVER. MATERIAL SHALL BE OF CLEAR ANODIZED ALUMINUM WITH HEAD, SILL AND JAMB OF 0.081" THICKNESS AND BLADES SHALL BE 0.060" THICK. LOUVER SHALL BE CONSTRUCTION SPECIALTIES MODEL RS-5300 OR EQUAL.
- B. BIRD SCREEN ON INTERIOR FACE SHALL BE OF 1/2" SQUARE MESH 0.063" THICK ALUMINUM AND NON-REWIREALBLE U-SHAPED ALUMINUM FRAME.
- C. COMPLY WITH MANUFACTURER'S INSTRUCTION AND RECOMMENDATION FOR INSTALLATION OF WORK.



2 LOUVER SECTION
AD12 SCALE: 3" = 1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



Signature: *Clarence T. Inouye*
EXP. DATE OF THE LICENSE: 04-30-20
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

AD12

06-07-18	1 LOUVER DETAIL REVISION
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DETAILS MAUNA KEA MAINTENANCE BASEYARD DANIEL K. INOUE HIGHWAY Project No. 200A-01-10 Scale: As noted Date: April 2018 SHEET No. AD1.2 OF 46 SHEETS	

AIR-COOLED CONDENSING UNIT SCHEDULE

MARK NO.	SERVES	CAPACITY (BTUH, COOLING)	CAPACITY (BTUH, HEATING)	ENT AMB AIR TEMP (°F)	COMPRESSOR			BLOWER MOTOR (ECM)		ELECTRICAL REQUIREMENTS		UNIT WEIGHT (LBS)	DESIGN BASED ON	REMARKS
					NO	TYPE	REFRIGERANT	NO	FLA	V/ø/HZ	MCA			
ACCU 1	FCU-1, FCU-2	18,000	22,000	95	1	INVERTER ROTARY	R410A	1	0.96	208/1/60	15	130	MITSUBISHI MXZ-2B20NA-1	

FAN COIL UNIT SCHEDULE

MARK NO.	EQUIPMENT TYPE	CAPACITY (BTUH, COOLING)	CAPACITY (BTUH, HEATING)	SA CFM (HIGH, COOLING)	SA CFM (HIGH, HEATING)	EAT (°F) COOLING		ELECTRICAL REQUIREMENTS		BLOWER MOTOR (ECM)	REFRIGERANT	UNIT WEIGHT (LBS)	DESIGN BASED ON	REMARKS
						DB	WB	V/ø/HZ	MCA					
FCU 1	WALL MOUNTED	12,000	14,400	321	321	80	67	208-230/1/60	1	0.76 FLA	R410A	22	MITSUBISHI MSZ-GE12NA-9	WIRELESS WALL MOUNTED REMOTE CONTROLLER
FCU 2	WALL MOUNTED	6,000	7,200	321	321	80	67	208-230/1/60	1	0.76 FLA	R410A	20	MITSUBISHI MSZ-GE06NA-9	WIRELESS WALL MOUNTED REMOTE CONTROLLER

EXHAUST FAN SCHEDULE

MARK NO.	LOCATION	TYPE	CFM	SP(IN)	RPM	SONES	BHP	V/PH/HZ	WEIGHT (LBS)	CONTROLS	DESIGN BASED ON	REMARKS
EF 1	UNISEX RESTROOM	CEILING	775	0.25	950	5.0	-	115/1/60	56	INTERLOCK WITH LIGHT	GREENHECK SP-A900	SPEED CONTROLLER IN FAN HOUSING
EF 2	TOILET	CEILING	130	0.25	1400	2.5	-	115/1/60	17	INTERLOCK WITH LIGHT	GREENHECK SP-A190	SPEED CONTROLLER IN FAN HOUSING
EF 3	JANITOR	CEILING	65	0.25	935	2.5	-	115/1/60	14	INTERLOCK WITH LIGHT	GREENHECK SP-80L	SPEED CONTROLLER IN FAN HOUSING

ELECTRIC WATER HEATER

MARK NUMBERS				TYPE	APPLICATION	RECOVERY	V/ø/HZ	KW	WEIGHT	REMARKS
EW 1	EW 2	EW 6	EW 7	TANKLESS	LAVATORY	0.5 GPM FLOW RATE AT 33°F RISE	120/1/60	2.4	5 LBS	CHRONOMITE SR-20L/120 OR APPROVED EQUAL, SIDE CONNECTIONS, FLEXIBLE CONNECTORS, REPLACEABLE FILTER/ELEMENT, UL LISTED
EW 3	EW 4	EW 9		TANKLESS	SINK	0.5 GPM FLOW RATE AT 65°F RISE	240/1/60	4.8	5 LBS	CHRONOMITE SR-20L/240 OR APPROVED EQUAL, SIDE CONNECTIONS, FLEXIBLE CONNECTORS, REPLACEABLE FILTER/ELEMENT, UL LISTED
EW 5	EW 8	EW 10		TANKLESS	SHOWER	1 GPM FLOW RATE AT 65°F RISE	240/1/60	9.6	5 LBS	CHRONOMITE SR-40L/240 OR APPROVED EQUAL, SIDE CONNECTIONS, FLEXIBLE CONNECTORS, REPLACEABLE FILTER/ELEMENT, UL LISTED

AIR COMPRESSOR AND RECEIVER

AC 1	80 GALLON ASME VERTICAL AIR RECEIVER WITH AUTO DRAIN, 2-STAGE AIR COMPRESSOR RATED FOR 16.8 CFM AT 175 PSI, 5 HP, 230/1/60 ODP MOTOR, LOW OIL LEVEL SWITCH, AIR COOLED AFTER COOLER, E-SERIES STARTER, INGERSOLL RAND MODEL 2475N5-P (TOTALLY PACKAGED) OR APPROVED EQUAL
---------	---



06-07-18

1

REVISED EQUIPMENT NO. AC-1

DATE

REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EQUIPMENT SCHEDULES

MAUNA KEA MAINTENANCE
BASEYARD

DANIEL K. INOUE HIGHWAY

Project No. 200A-01-10

Scale: As Noted

Date: April 2018

SHEET No. M0.1 OF 19

SHEETS

KEITH M. CHAN
LICENSED PROFESSIONAL ENGINEER
No. 5784-M
HAWAII U.S.A.

SIGNATURE

EXP. DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

M0.1

SURVEY PLOTTED BY

DATE

DRAWN BY

DATE

TRACED BY

DATE

DESIGNED BY

DATE

CHECKED BY

DATE

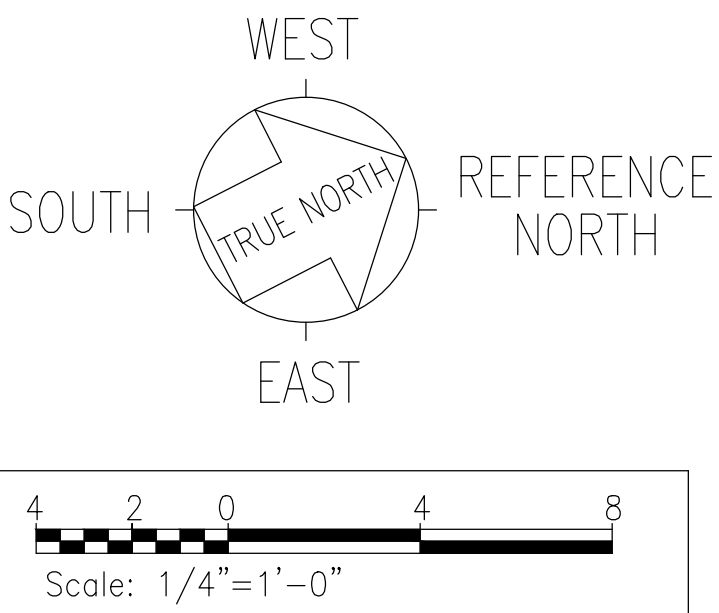
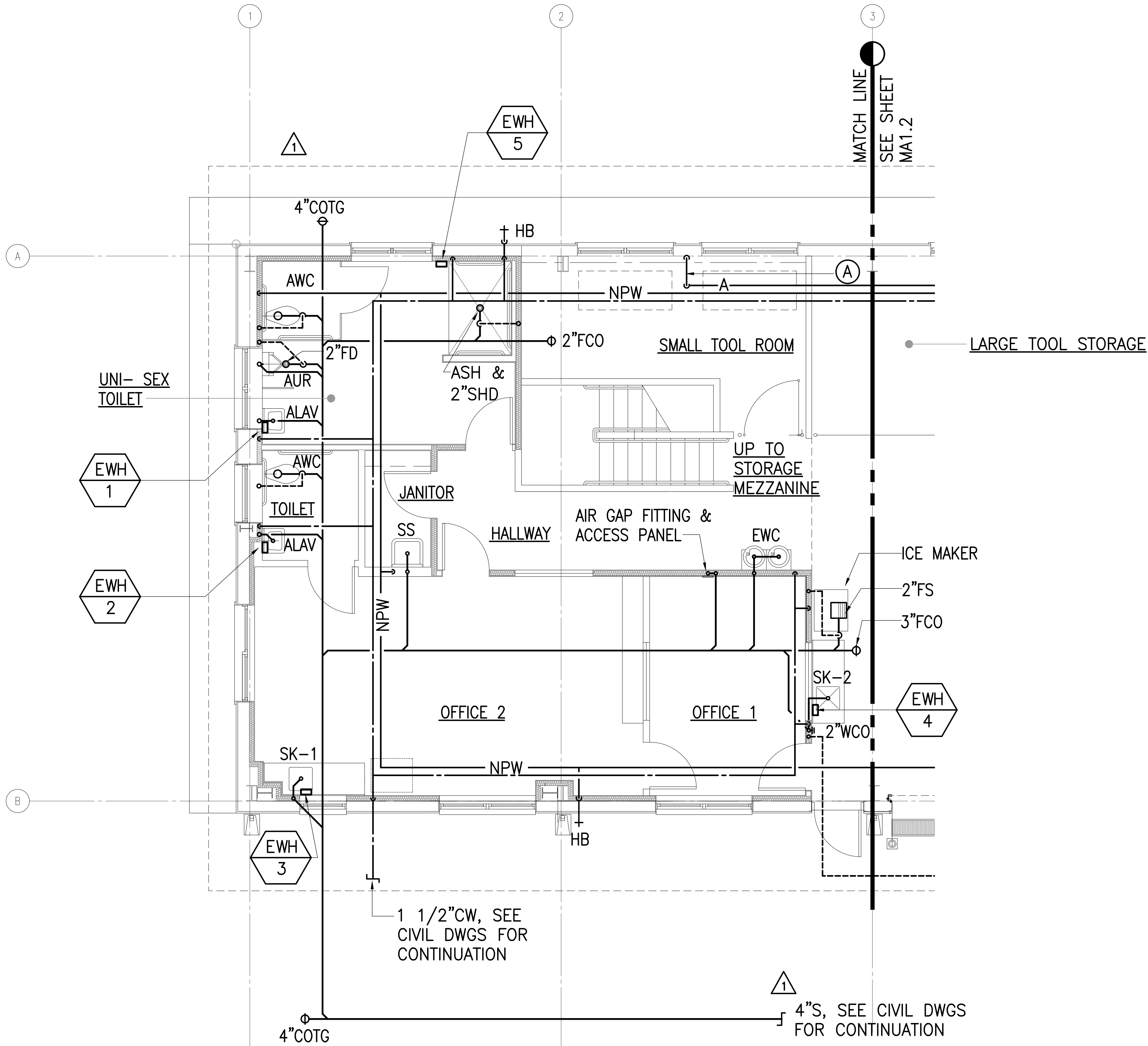
ORIGINAL PLAN

No.

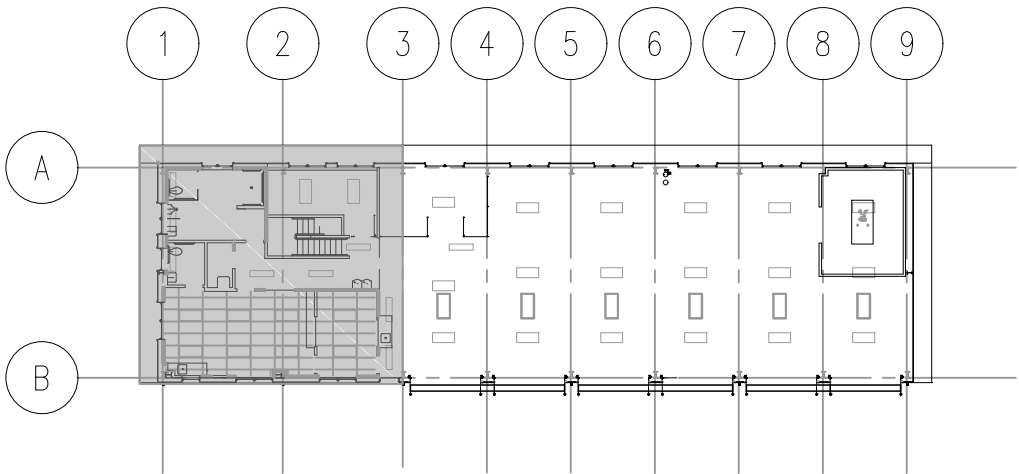
NOTE BOOK

No.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 100	146



PARTIAL SHOP BLDG PLUMBING
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NONE

MA1.1

KEITH M. CHAN

LICENSED PROFESSIONAL ENGINEER

No. 5784-M

HAWAII U.S.A.

SIGNATURE

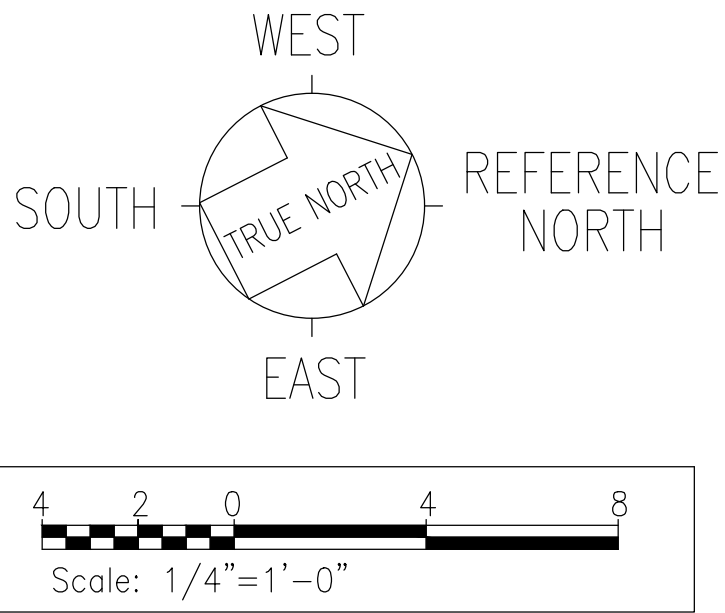
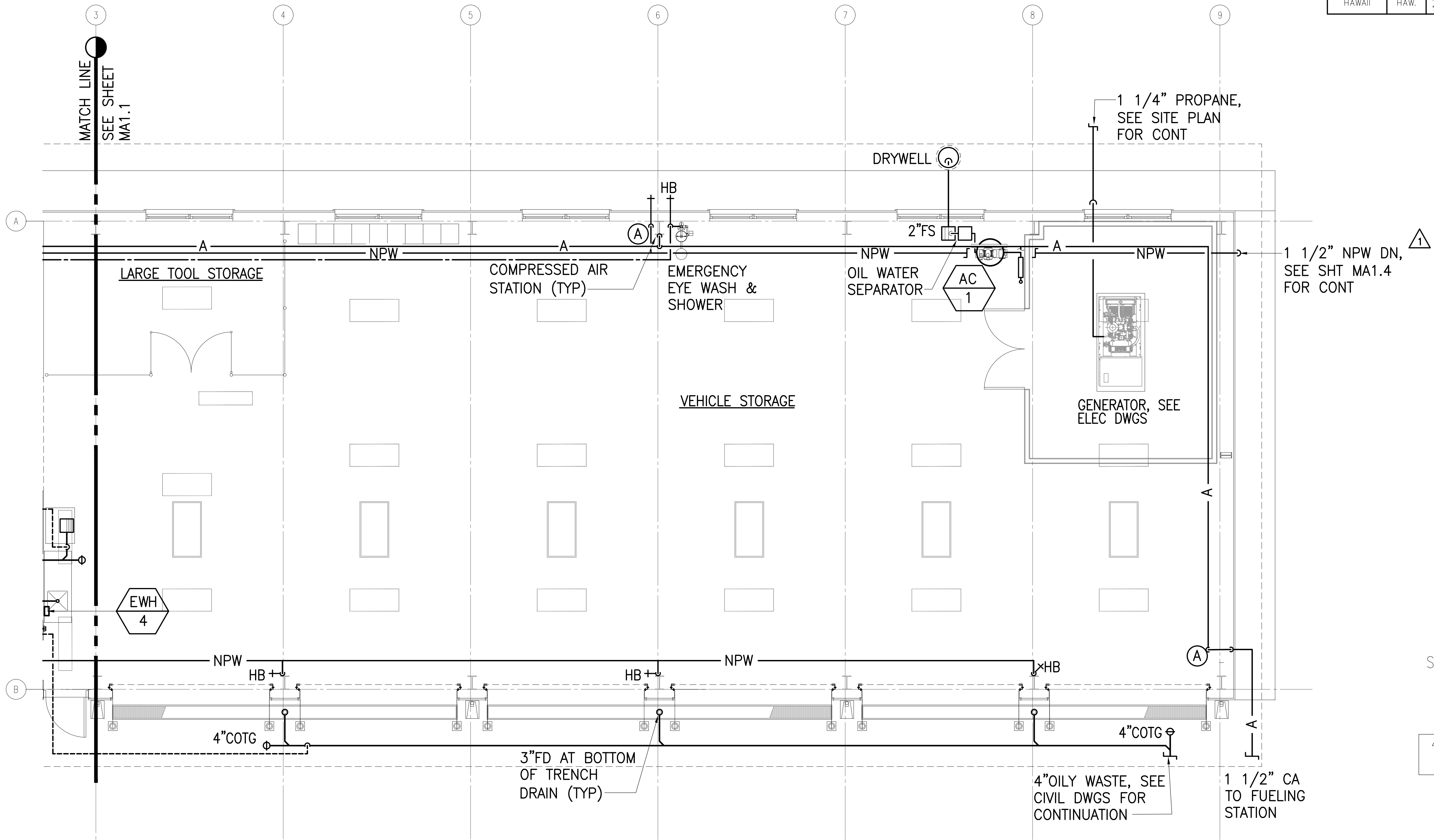
EXP. DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

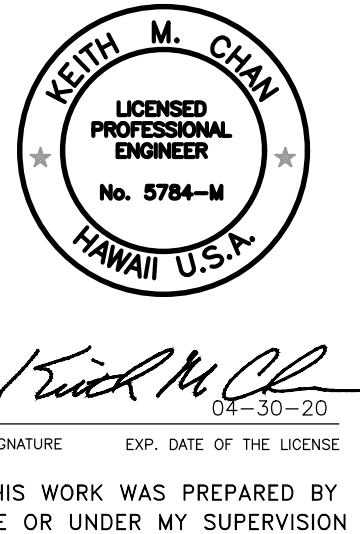
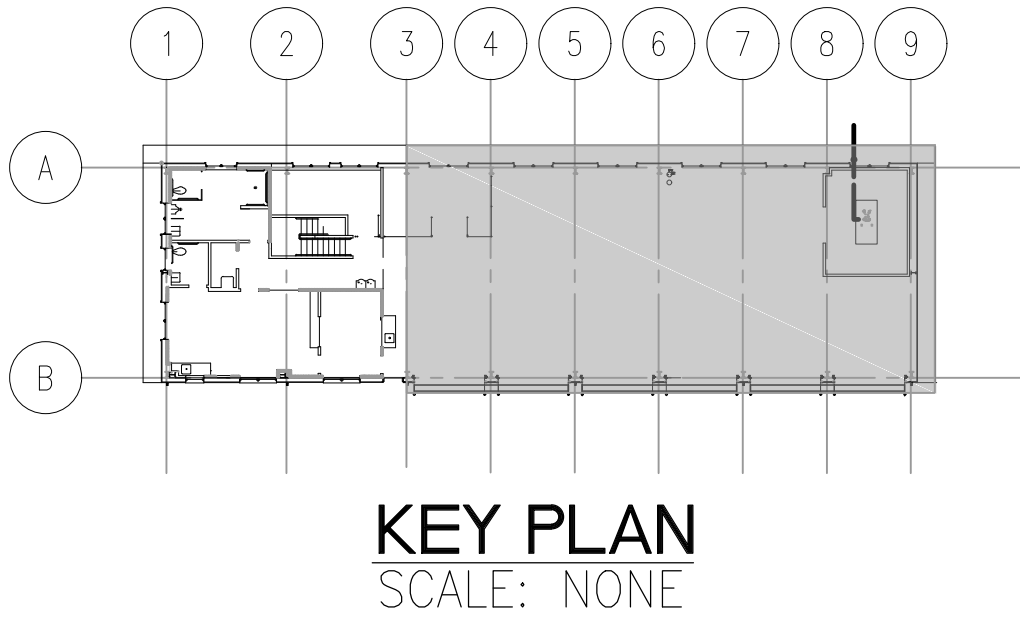
06-07-18	1	REVISED S AND NPW PIPING LAYOUT
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
<u>SHOP BLDG PLUMBING</u>		
<u>MAUNA KEA MAINTENANCE</u>		
<u>BASEYARD</u>		
<u>DANIEL K. INOUE HIGHWAY</u>		
<u>Project No. 200A-01-10</u>		
Scale: As Noted		Date: April 2018
SHEET No. MA1.1 OF 19 SHEETS		

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 101	146



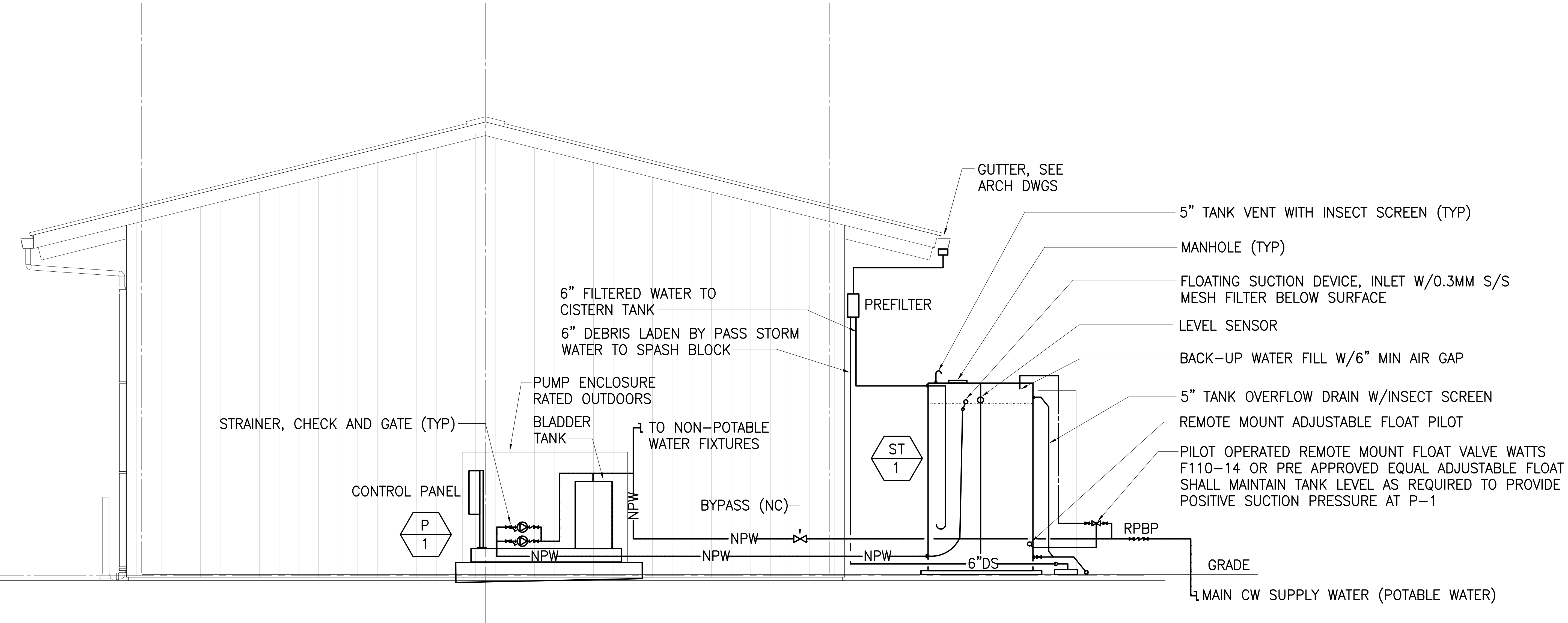
PARTIAL SHOP BLDG PLUMBING
SCALE: 1/4" = 1'-0"



06-07-18	1	REVISED NPW PIPING LAYOUT
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>SHOP BLDG PLUMBING</u> <u>MAUNA KEA MAINTENANCE</u> <u>BASEYARD</u> <u>DANIEL K. INOUE HIGHWAY</u> <u>Project No. 200A-01-10</u>		
Scale: As Noted		Date: April 2018
SHEET No. MA1.2 OF 19		SHEETS

MA1.2

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 103	146

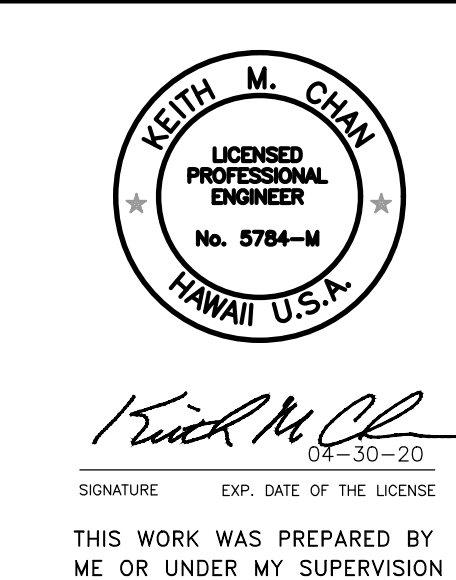


SHOP BLDG RAINWATER COLLECTION SCHEMATIC
SCALE: NONE

EQUIPMENT SCHEDULE

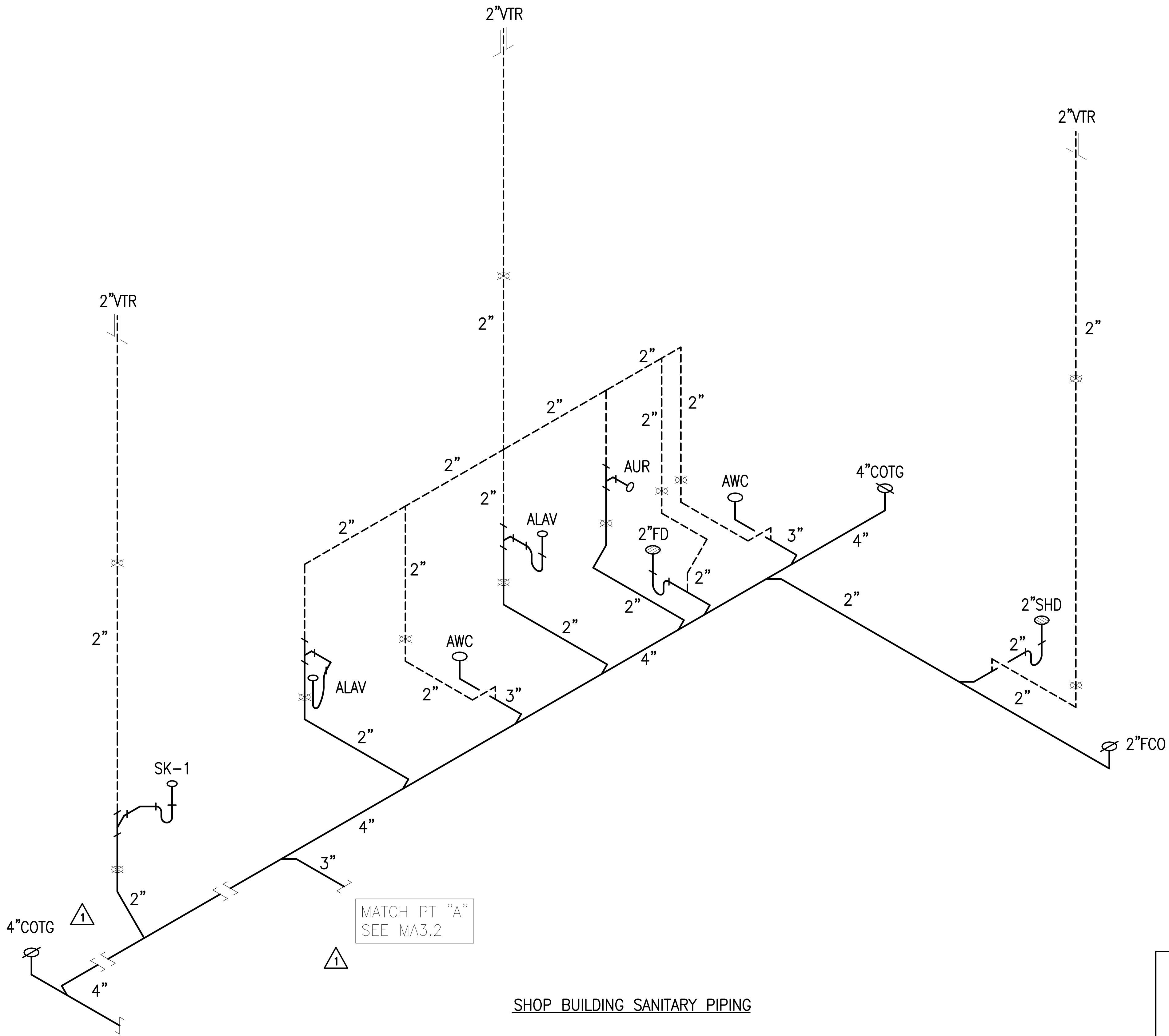
- ST 1** 1000 GALLON, VERTICAL HDPE (ANSI/NSF STANDARD 61) RAINWATER STORAGE TANK, 72" DIAMETER x 62" HIGH, UV PROTECTION, DESIGNED FOR CONTINMENT OF WATER (8.5 LBS/GALLON), REQUIRED TANK FITTINGS & APPURTENANCES, 5 YEAR WARRANTY, RAIN HARVEST OR APPROVED EQUAL
- 1 P 1** ENGINEERED PACKAGED DUPLEX VARIABLE SPEED DOMESTIC WATER BOOSTER PUMP, 20 GPM AT 50 PSI BOOST, GRUNDFOS SERIES CR, MODEL CR 3-7, CAST IRON, SS FITTED, MECHANICAL SEAL, VERTICAL MULTISTAGE PUMP COUPLED TO A 1.5 HP, 3600 RPM, 460/3/60, TEFC PREMIUM EFFICIENT MOTOR, NON-SLAM CHECK VALVE, ISOLATION LUG STYLE BUTTERFLY VALVE, PRESSURE GAUGES WITH ISOLATION VALVES, NON-ELECTRIC COMBINATION TEMPERATURE PROBE/PURGE ASSEMBLY, UL LISTED NEMA 1 POWER AND CONTROL PANEL, SS SUCTION AND DISCHARGE PIPING, 4.4 150# NON-ASME TANK SKID MOUNTED, NSF-61/NSF 372 COMPLIANT SYSTEM AND OUTDOOR ENCLOSURE. TIGERFLOW SERIES VMD-4000-MB-VFD, TIGERCUB MODEL SVMV-1.5GF-S3-S2-VM-P-VFD, UL/C-UL LISTED OR APPROVED EQUAL.

06-07-18	1	REVISE EQUIPMENT NO. P-1
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION SHOP BUILDING RAINWATER COLLECTION SCHEMATIC MAUNA KEA MAINTENANCE BASEYARD DANIEL K. INOUE HIGHWAY Project No. 200A-01-10 Scale: As Noted Date: April 2018 SHEET No. MA1.4 OF 19 SHEETS		



MA1.4

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 106	146



SHOP BUILDING SANITARY PIPING

PLUMBING DIAGRAMS
SCALE: NONE

06-07-18	1	REVISED DIAGRAM & ADDED NOTES
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>DIAGRAMS</u> <u>MAUNA KEA MAINTENANCE</u> <u>BASEYARD</u> <u>DANIEL K. INOUE HIGHWAY</u> <u>Project No. 200A-01-10</u>		
Scale: As Noted		Date: April 2018
SHEET No. MA3.1 OF 19 SHEETS		

KEITH M. CHAN

LICENSED PROFESSIONAL ENGINEER

No. 5784-M

HAWAII U.S.A.

04-30-20

SIGNATURE

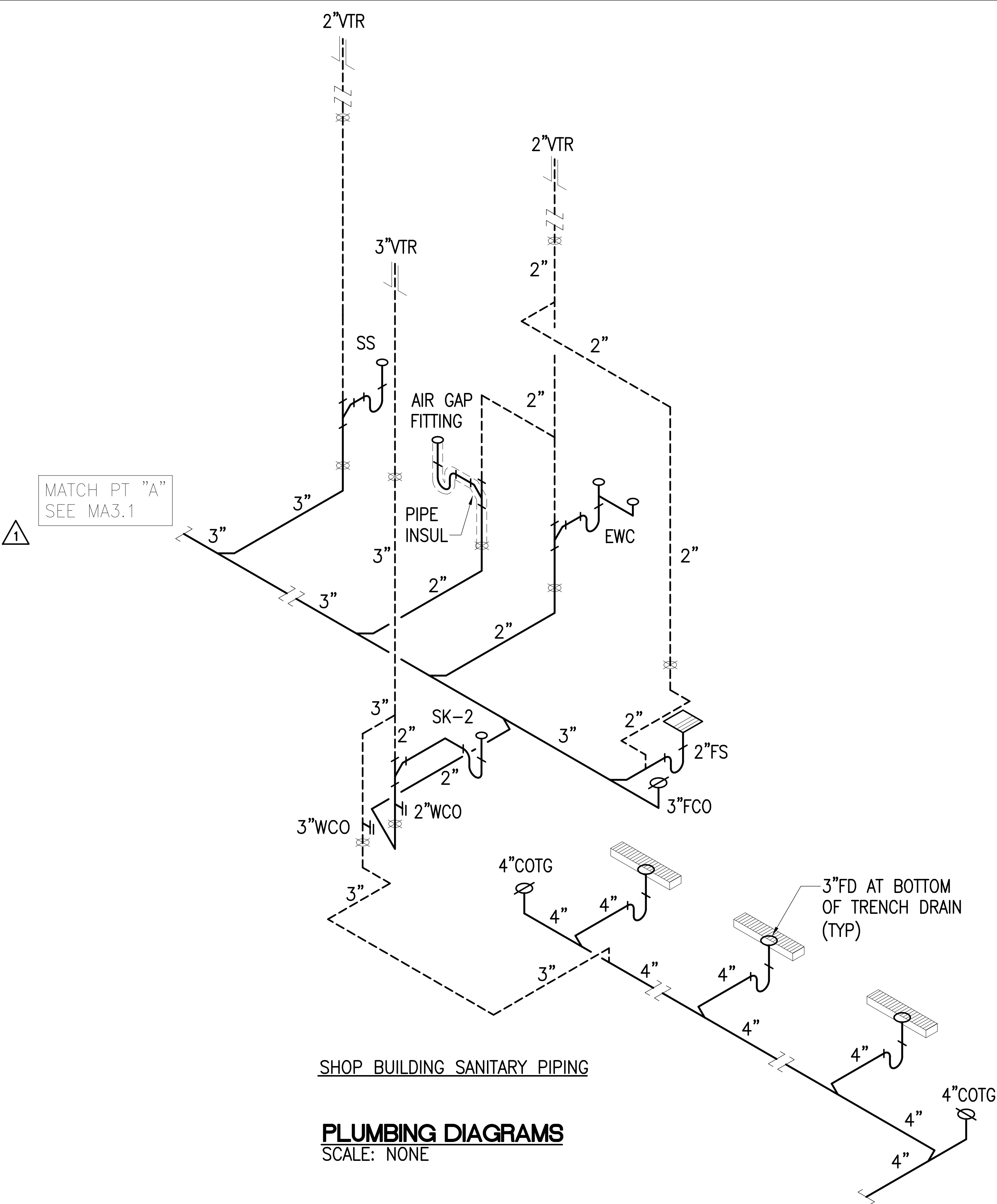
EXP. DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

MA3.1

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 107	146



SHOP BUILDING SANITARY PIPING

PLUMBING DIAGRAMS
SCALE: NONE

06-07-18	1 ADDED CLASSIFICATION NOTE
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>DIAGRAMS</u> <u>MAUNA KEA MAINTENANCE</u> <u>BASEYARD</u> <u>DANIEL K. INOUE HIGHWAY</u> <u>Project No. 200A-01-10</u> Scale: As Noted Date: April 2018	
SHEET No. MA3.2 OF 19 SHEETS	

KEITH M. CHAN

LICENSED PROFESSIONAL ENGINEER

No. 5784-M

HAWAII U.S.A.



04-30-20

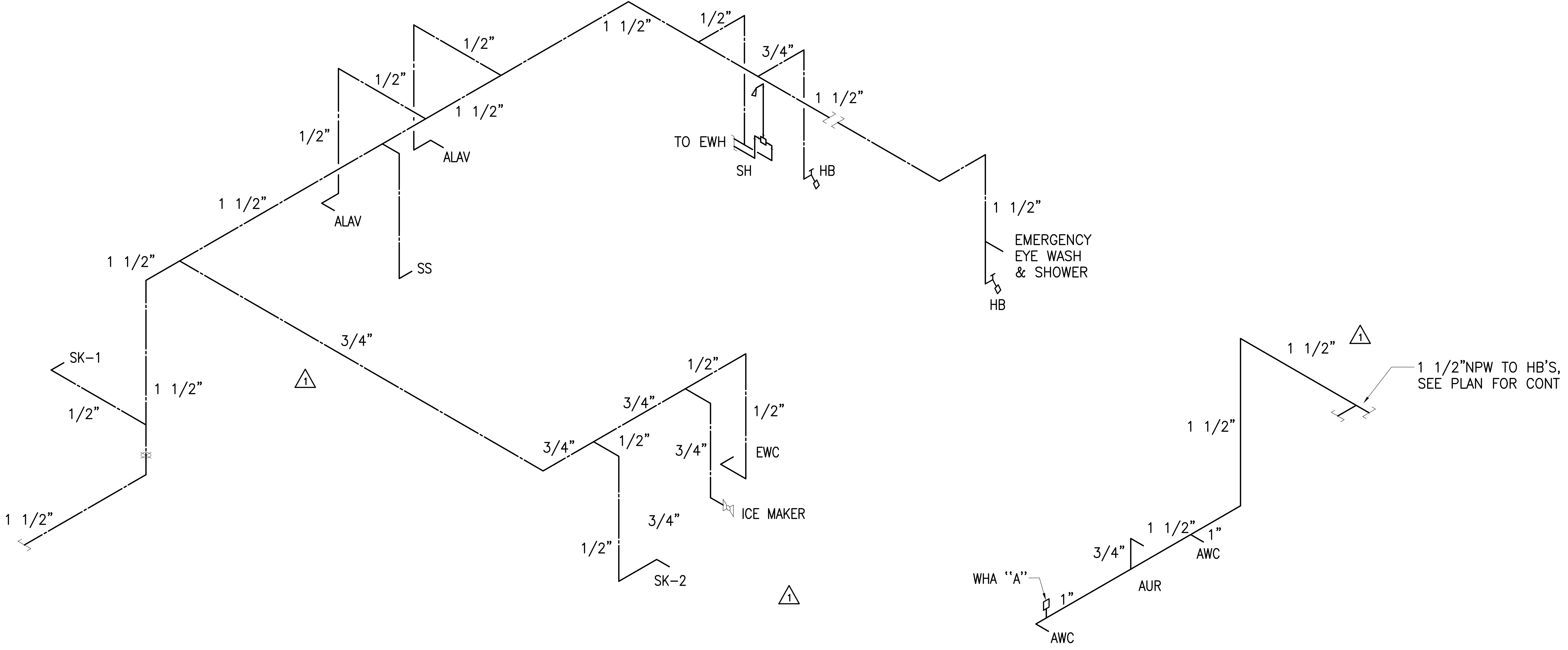
SIGNATURE EXP. DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

MA3.2

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 108	146



SHOP BUILDING WATER PIPING

SHOP BUILDING NON-POTABLE WATER PIPING

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

PLUMBING DIAGRAMS
SCALE: NONE

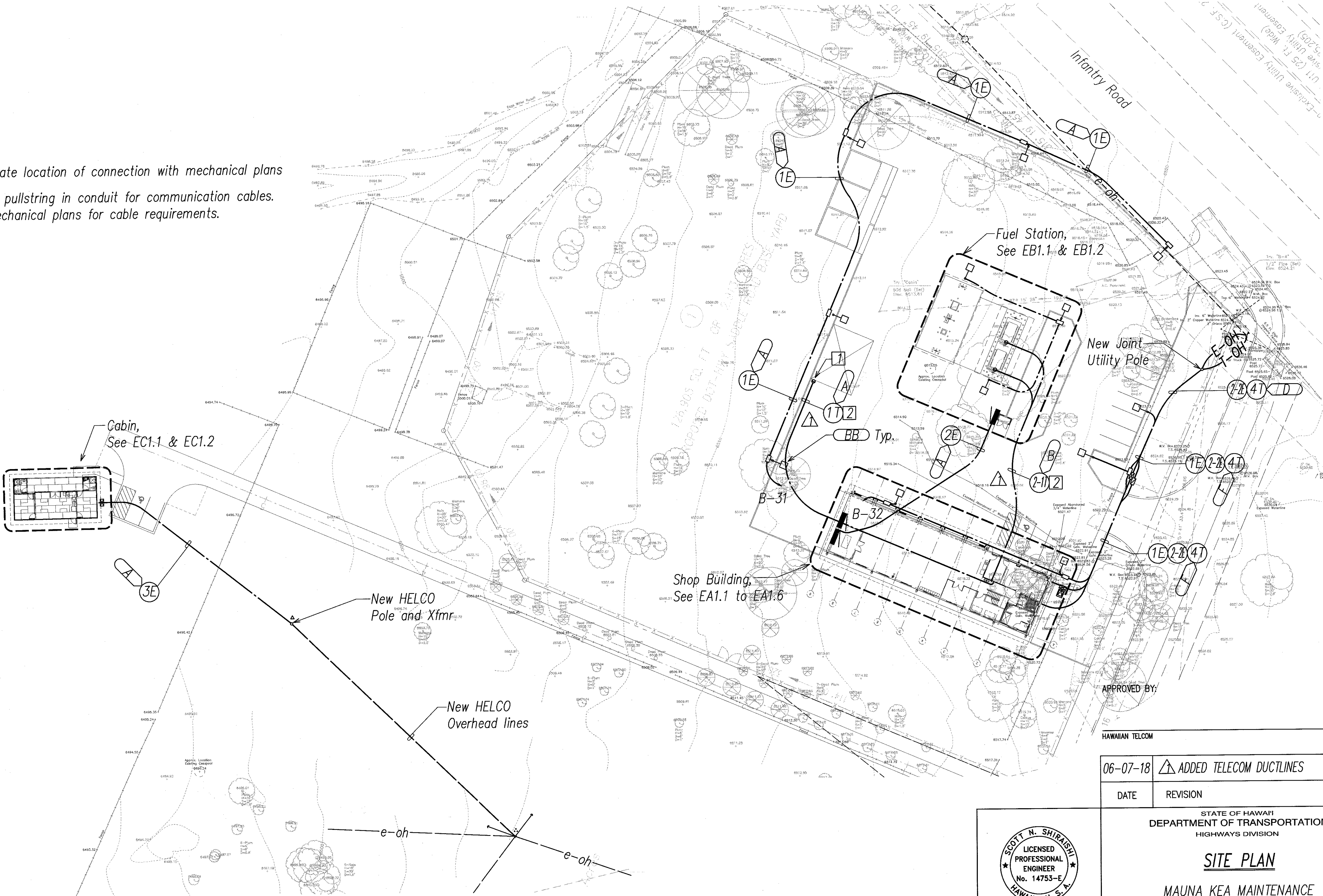
MA3.3

06-07-18	1	REVISED WATER & NPW DIAGRAM
DATE	REVISION	
Signature: <i>Keith M. Chan</i> EXP. DATE OF THE LICENSE: 04-30-20 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DIAGRAMS MAUNA KEA MAINTENANCE BASEYARD DANIEL K. INOUE HIGHWAY Project No. 200A-01-10 Scale: As Noted Date: April 2018 SHEET No. MA3.3 OF 19 SHEETS		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 120	146

Notes:

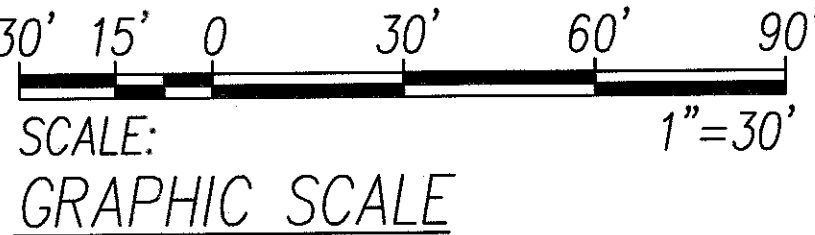
- 1 Coordinate location of connection with mechanical plans
- 2 Provide pullstring in conduit for communication cables. See mechanical plans for cable requirements.



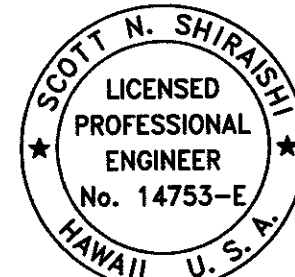
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



SITE PLAN
SCALE: 1"=30'



E1.2



Signature: [Signature]
Date of the License: 04-30-20
This work was prepared by me or under my supervision.

06-07-18	ADDED TELECOM DUCTLINES
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
SITE PLAN	
MAUNA KEA MAINTENANCE BASEYARD	
DANIEL K. INOUE HIGHWAY Project No. 200A-01-10	
Scale: As Noted	Date: APRIL, 2018

SHEET No. E1.2 OF 26 SHEETS

ADD. 120

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 121	146

Notes:

- 1 CAT GD50-2 Generator Set Enclosure and 48 Hour Fuel Supply or Approved Equal.
- 2 Clear Space Per NEC.
- 3 3" Thick Concrete Pad. See Structural Plans.
- 4 Connection to Generator Main Breaker.
- 5 Above Counter.
- 6 To Telecom Cab.
- 7 Electrical Connection to Battery Charger & Heater. All Equipment to be Pre-Mounted on Generator by Manufacturer.
- 8 See A/E2.8 for Equipment Elevation.
- 9 Coordinate Equipment Location with Mechanical Plans.
- 10 Provide 2-Ply Tag with the Following Note: "Warning! Load Side of Conductors may be Energized when Stations Generator is Running" See B/E2.6 for I.D. Tag Requirements.
- 11 Provide 2-Ply Tag to Label Enclosure with Its Respective Underlined Title. See B/E2.6 for I.D. Tag Requirements.
- 12 Coordinate Location with Equipment Furnished.
- 13 For Continuation, See sheet E1.2

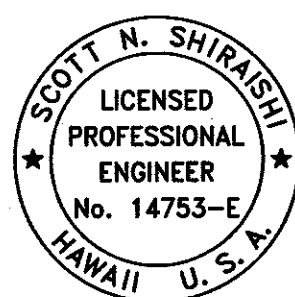
APPROVED BY:

HAWAIIAN TELCOM

DATE

06-07-18 ADDED TELECOM DUCTLINES

DATE REVISION



Signature: Exp. Date of the License: 04-30-20

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SHOP BUILDING

MAUNA KEA MAINTENANCE

BASEYARD

DANIEL K. INOUE HIGHWAY

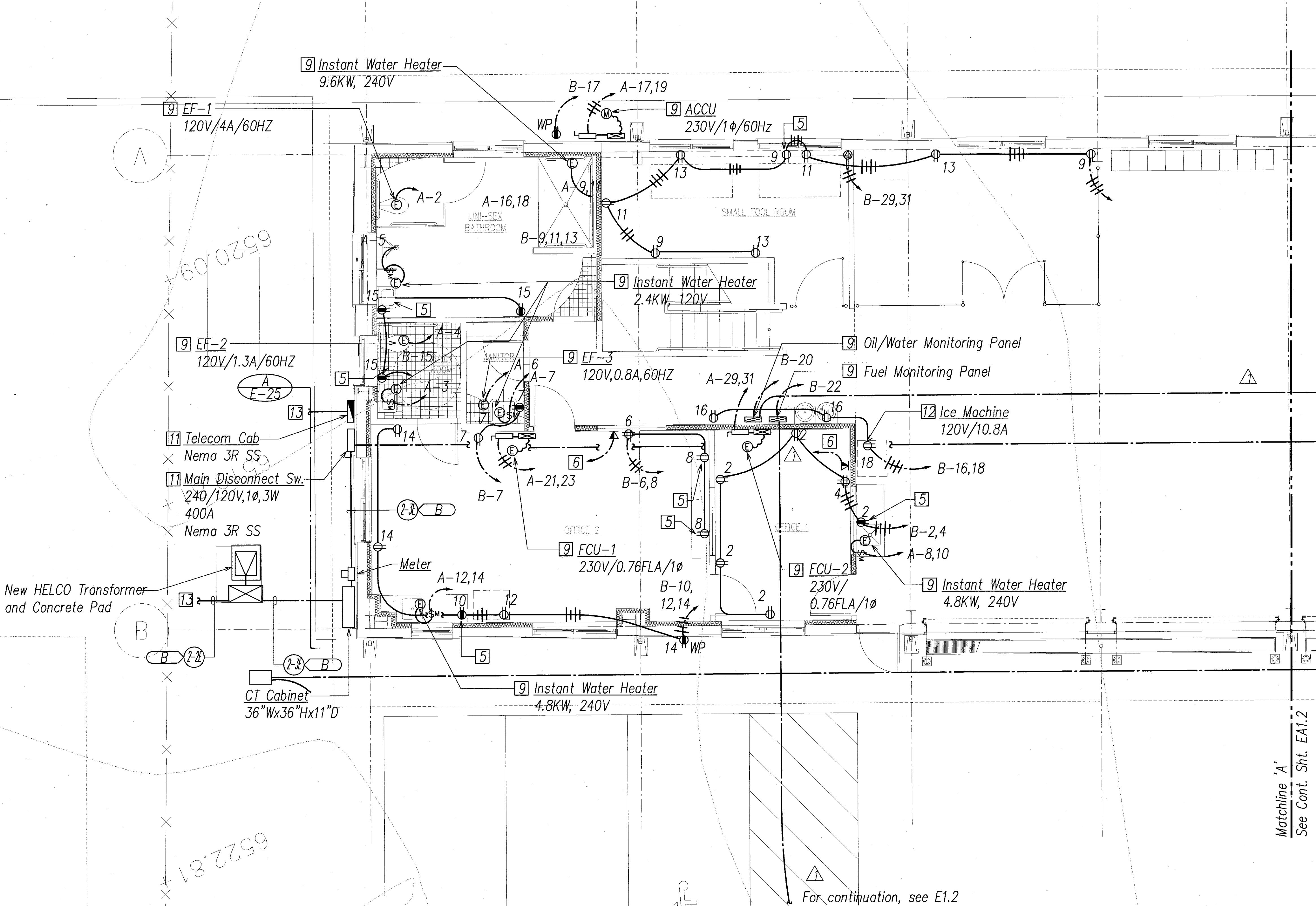
Project No. 200A-01-10

Scale: As Noted

Date: APRIL, 2018

SHEET No. EA11 OF 26 SHEETS

ADD. 121



PARTIAL SHOP BUILDING 1ST FLOOR POWER & SIGNAL PLAN I

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8' 12'
SCALE: 1/4"=1'-0"
GRAPHIC SCALE

EA1.1

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
TRACED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

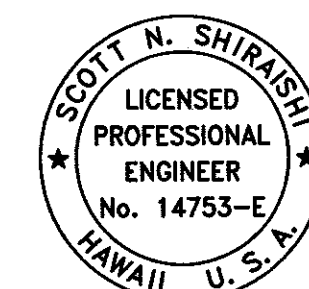
LAST EDIT: 2/24/2018 PROJECT: 11076/008.121-1A101-211076-PARTIAL SHOP 1ST FLOOR ELEC L-ADD1 XREFS: 2018-03-08-161221 MM BASEYARD SITE PLAN FINAL 2018-03-08-161221 MM DLR CABIN FINAL 2018-03-08-161221 MM BASEYARD OUT BLDGS - FINAL 2018-03-08-161221 MM BASEYARD PARK TOPD-STATE HWY MAINTENANCE PARK TOPD 211076-BACKGROUND ALL 2018-06-06

[illegible]

- [1]** CAT DG50-2 Generator Set with
48 Hour Fuel Supply or Approved Equal.
- [2]** 3" Thick Concrete Pad. See Structural Plans.
- [3]** Electrical Connection to Battery Charger &
Heater. All Equipment to be Pre-Mounted
on Generator by Manufacturer.
- [4]** Connection to Generator Main Breaker.
- [5]** Provide 2-Ply Tag to Label Enclosure with Its
Respective Underlined Title. See B/E2.6 for
I.D. Tag Requirements.
- [6]** To Panel 'G'. See Electrical Site Plan for
location.
- [7]** Clear Space Per NEC
- [8]** Provide 3-1" C to Panel 'B' for inverter power.
Provide 3-1" C to ATS for control cables.
- [9]** Coordinate Equipment Location with Mechanical
Plans.



SCALE: $1/4"=1'-0"$



EA1.2

Scale: As Noted Date: APRIL, 2018

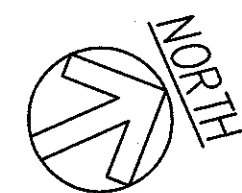
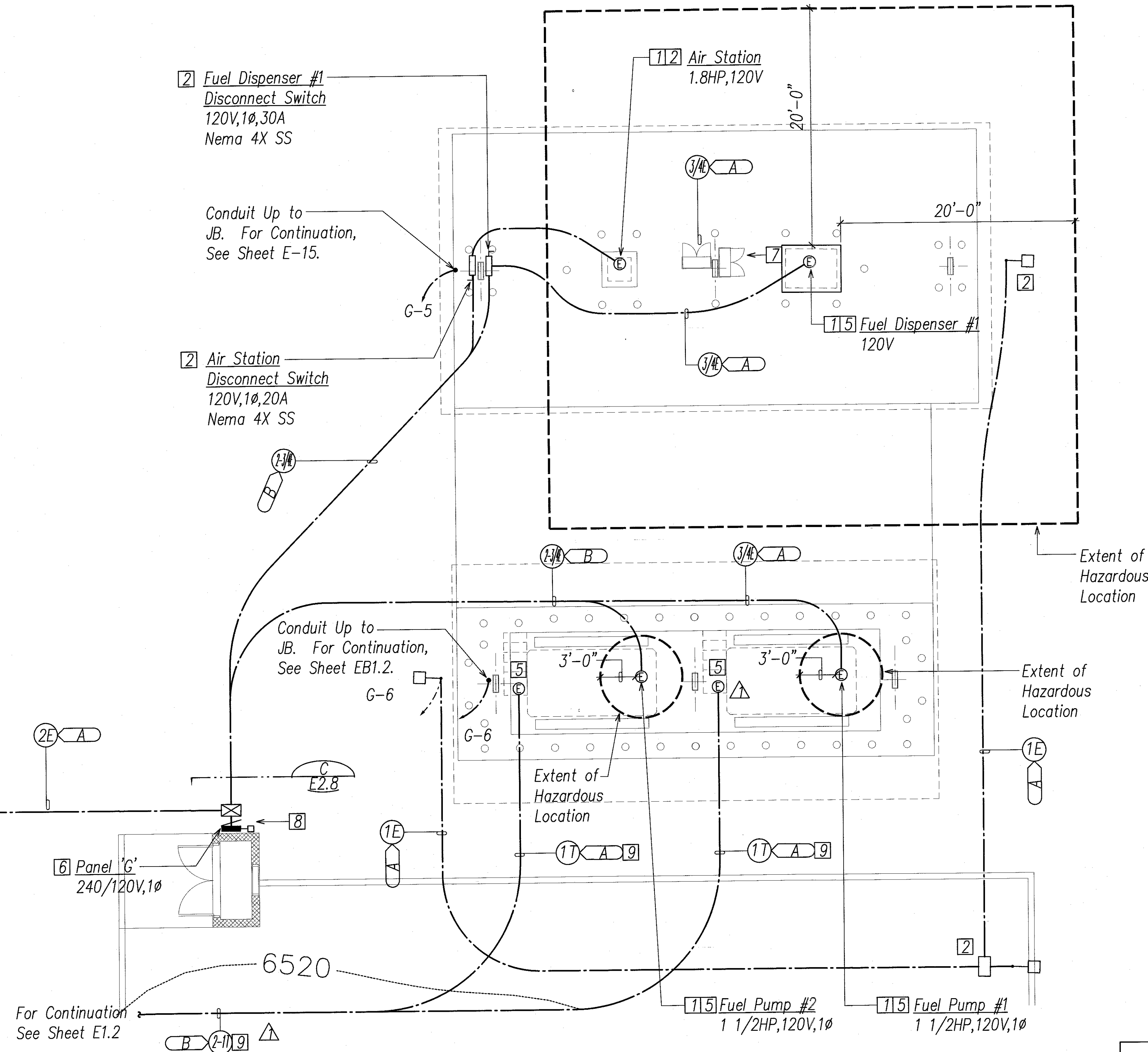
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 127	146

Notes:

- 1 Provide Dispenser Seal Per NEC 514.9(A).
- 2 Provide Boundary Seals Per NEC 514.9(B).
- 3 Provide Threaded Rigid Metal Conduit to Comply as Necessary with NEC 501.10(A)(G).
- 4 For Wiring, See One-Line Diagram & Panel Schedule.
- 5 Coordinate Equipment Location with Mechanical Plans.
- 6 Provide 2-Ply Tag to Label Enclosure with Its Respective Underlined Title. See B/E2.6 for I.D. Tag Requirements.
- 7 Provide 2-Ply Tag Above Fuel Dispenser Disconnects To Read "Emergency Shutoff Switch Located on West Wall of Flammable Storage Building". See B/E2.6 for I.D. Tag Requirements..
- 8 Provide 2-Ply Tag Above Pushbutton Switch to Read "Emergency Shutoff Switch". See B/E2.6 for I.D. Tag Requirements.
- 9 Provide pullstring in conduit for communication cables. See mechanical plans for cable requirements.



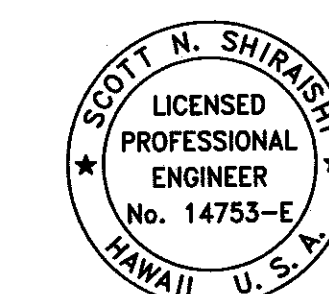
For Continuation
See Sheet E1.2



FUEL STATION POWER & SIGNAL PLAN

SCALE: 3/16"=1'-0"

4' 2' 0' 4' 8' 12'
SCALE: 3/16"=1'-0"
GRAPHIC SCALE



Signature: *Scott N. Shirashi*
Exp. Date of the License: 04-30-20
This work was prepared by me or under my supervision.

EB1.1

06-07-18	ADDED TELECOM DUCTLINES
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
FUEL STATION	
MAUNA KEA MAINTENANCE BASEYARD	
DANIEL K. INOUE HIGHWAY Project No. 200A-01-10	
Scale: As Noted	Date: APRIL, 2018

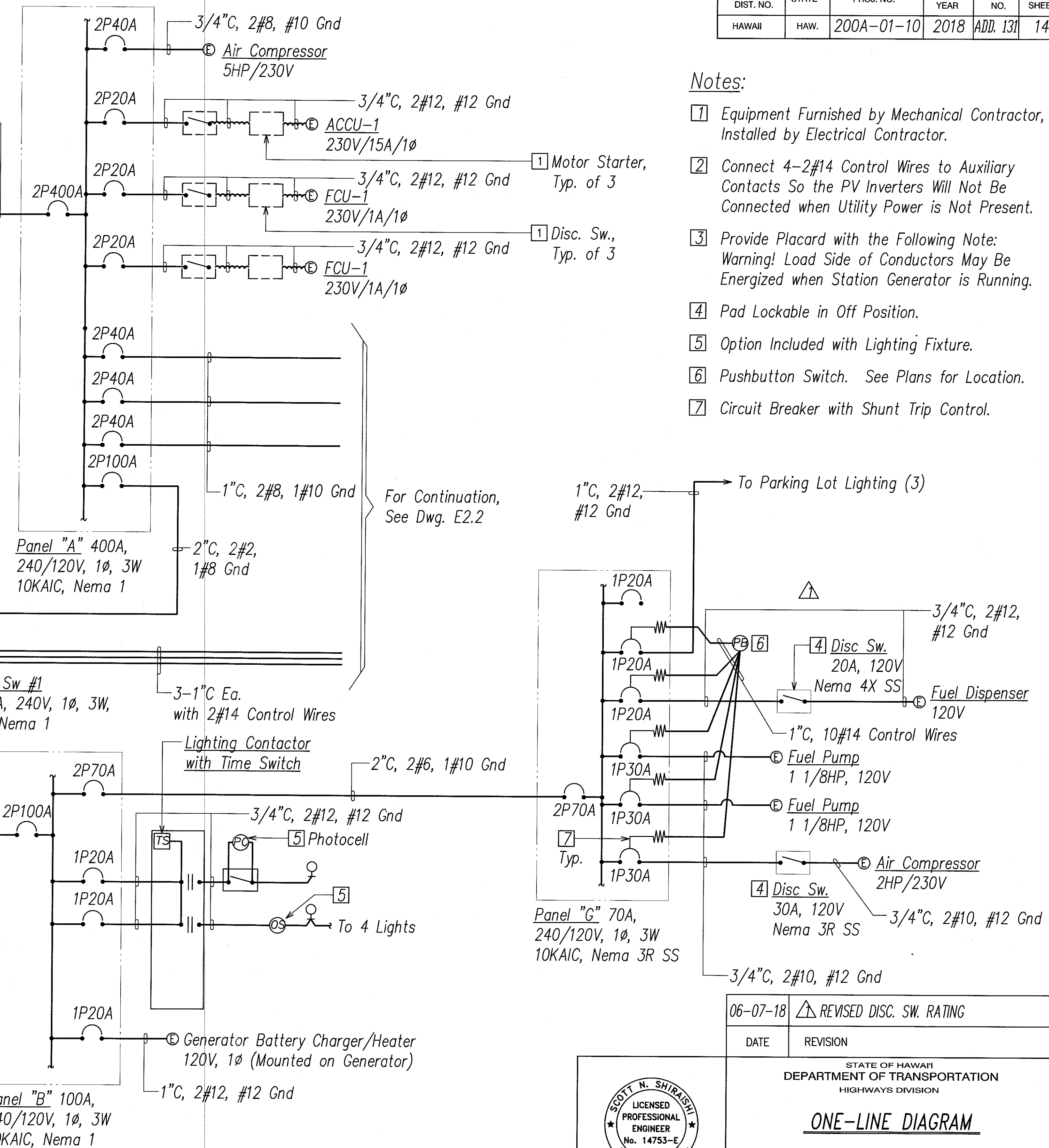
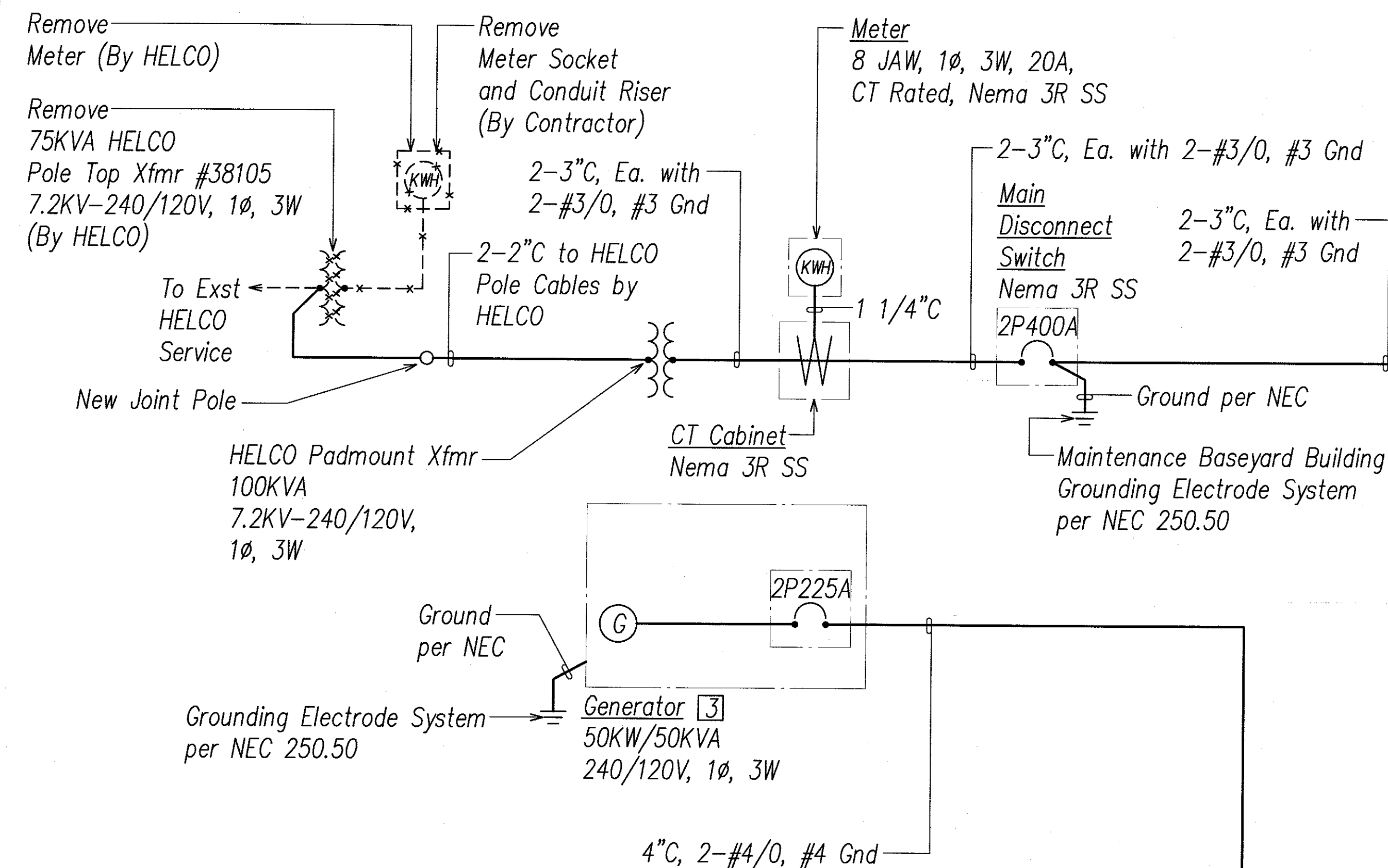
SHEET No. EB11 OF 26 SHEETS

ADD. 127

ORIGINAL PLAN	DATE
NOTE BOOK	DESIGNED BY
	QUANTITIES BY
	CHECKED BY

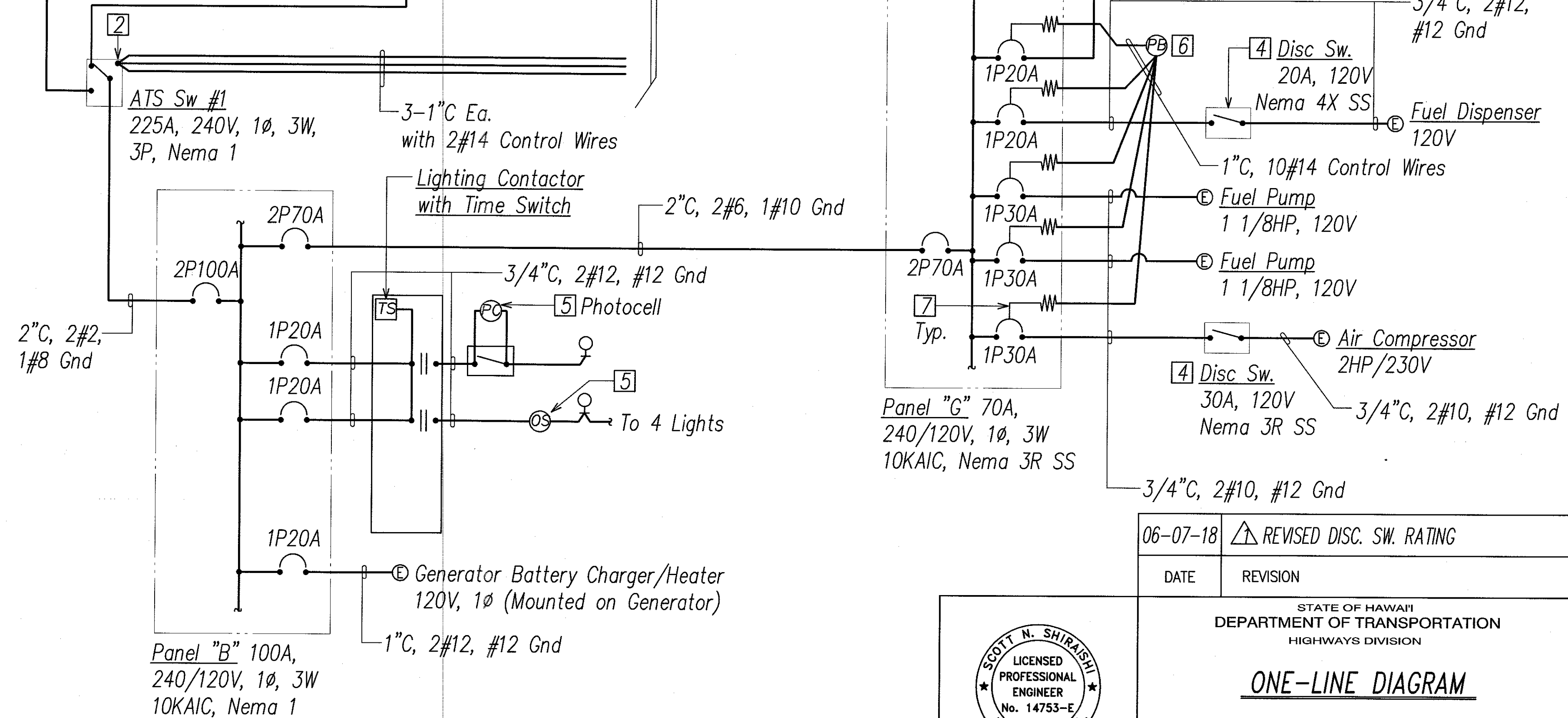
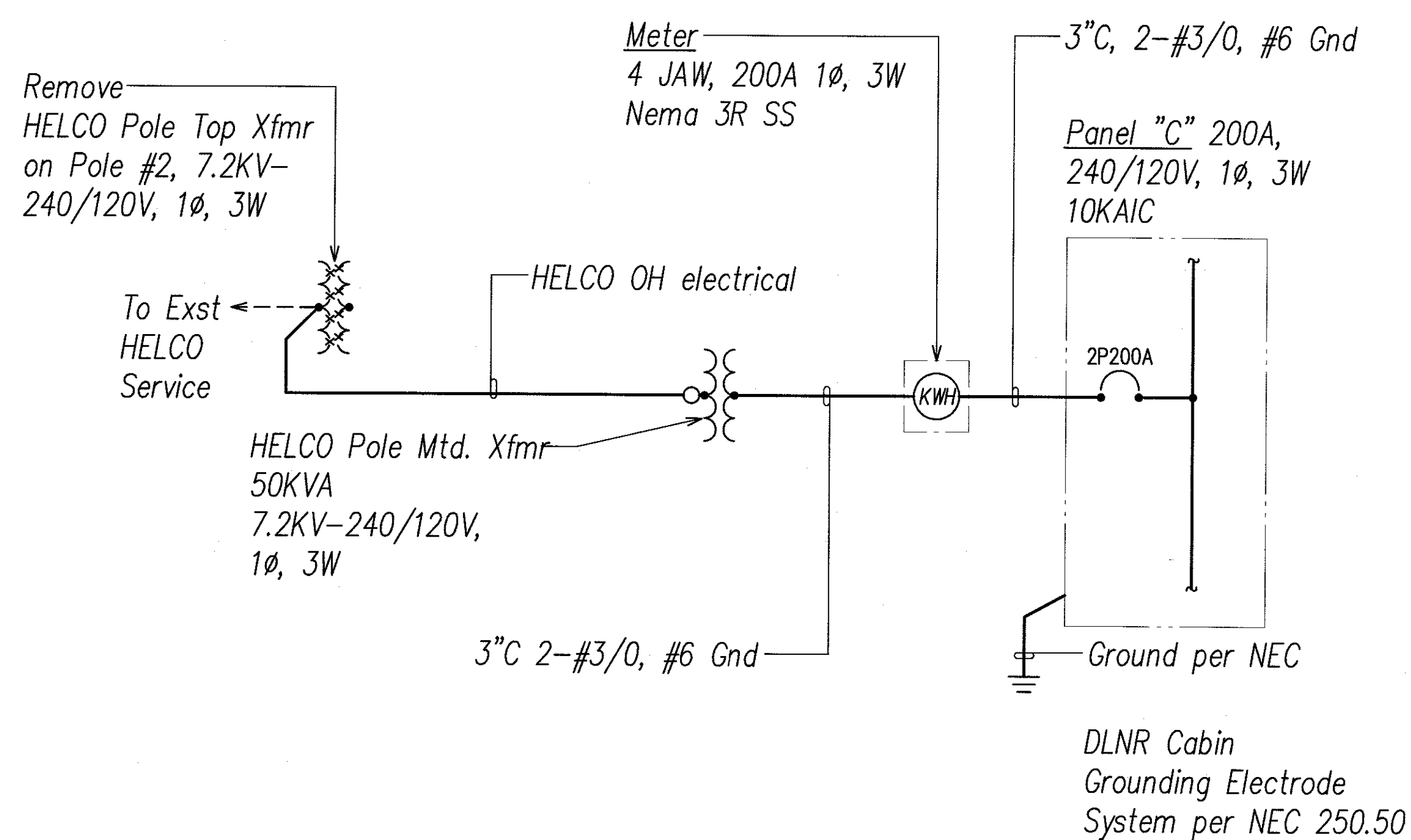
LAST EDIT: 2/10/2019 PROJECTS\11078\014-127-EB11-211078 FUEL STATION ELEC-ADD1 XREF'S: SWS-STAMP 2018-03-08 16:221 MW BASEYARD SITE PLAN FINAL 2018-03-28 LAYOUT 2018-03-08 16:221 MW DIAR CABIN FINAL 2018-03-08 16:221 MW BASEYARD OUT BLDGS - FINAL 2018 STATE HWY MAINTENANCE PARK TOPS-STATE HWY MAINTENANCE PARK TOPS 211078 BACKGROUND JAL 2018-04-07 21:07 L E

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD, 131	146



Notes:

- ① Equipment Furnished by Mechanical Contractor,
Installed by Electrical Contractor.
- ② Connect 4-2#14 Control Wires to Auxiliary
Contacts So the PV Inverters Will Not Be
Connected when Utility Power is Not Present.
- ③ Provide Placard with the Following Note:
Warning! Load Side of Conductors May Be
Energized when Station Generator is Running.
- ④ Pad Lockable in Off Position.
- ⑤ Option Included with Lighting Fixture.
- ⑥ Pushbutton Switch. See Plans for Location.
- ⑦ Circuit Breaker with Shunt Trip Control.

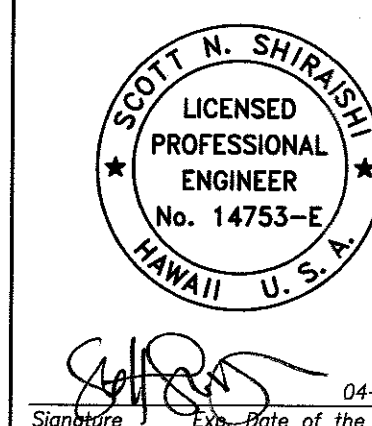


DLNR CABIN ONE-LINE DIAGRAM
NOT TO SCALE

ADDITIVE ALTERNATE NO. 5
(ENTIRE BUILDING)

SHOP BUILDING ONE—LINE DIAGRAM 1
NOT TO SCALE

E2.01



06-07-18	 REVISED DISC. SW. RATING
DATE	REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ONE-LINE DIAGRAM

MAUNA KEA MAINTENANCE
BASEYARD
DANIEL K. INOUE HIGHWAY
Project No. 200A-01-10

Scale: As Noted Date: APRIL, 2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ONE-LINE DIAGRAM

MAUNA KEA MAINTENANCE
BASEYARD
DANIEL K. INOUE HIGHWAY
Project No. 200A-01-10

Scale: As Noted Date: APRIL 2018

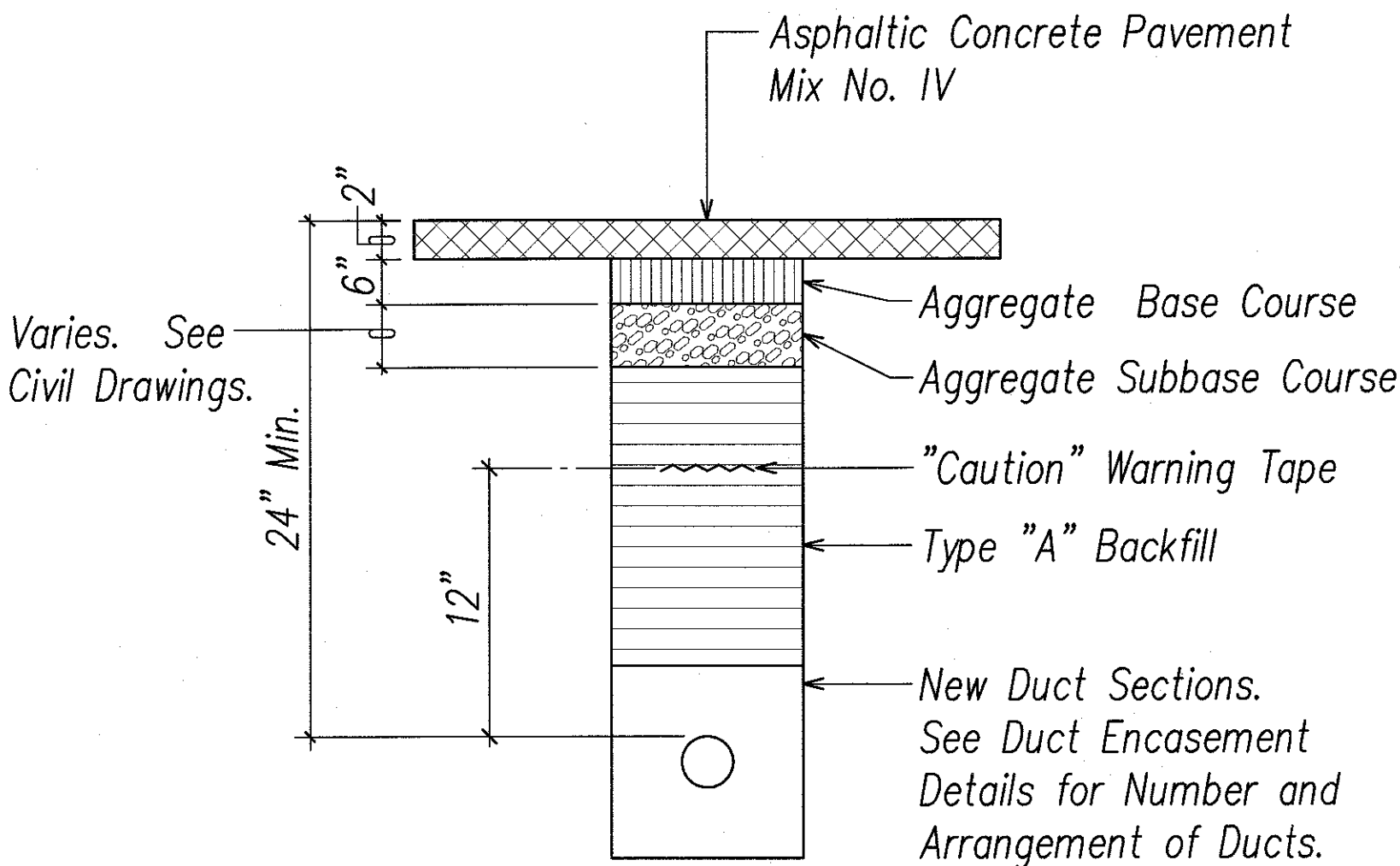
SHEET No. **E2.01** OF **26** SHEETS

ADD. 131

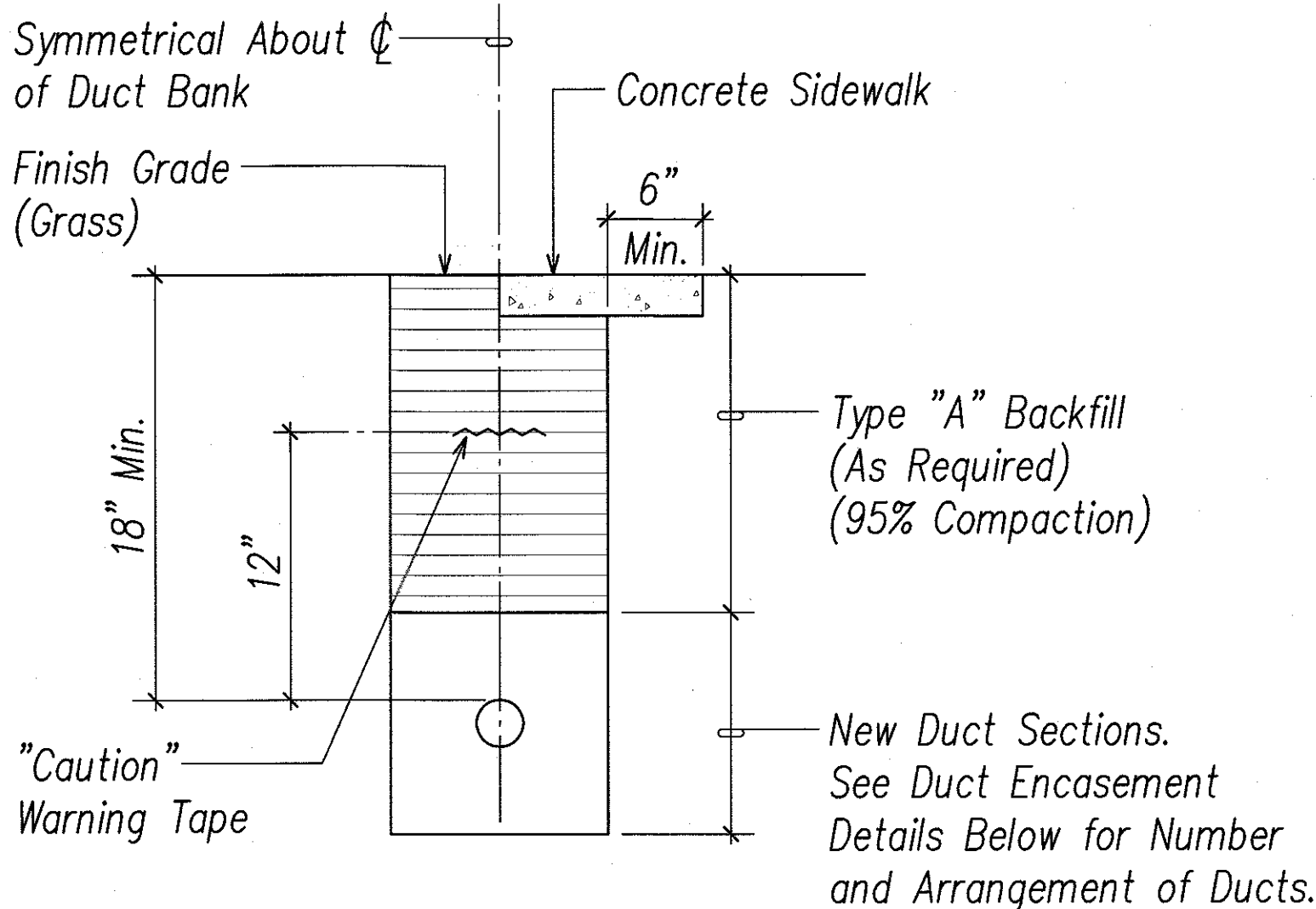
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	200A-01-10	2018	ADD. 136	146

CONDUIT SCHEDULE	
Item	Description
(3/4)	Elec 3/4"C
(2E)	Elec 2"C
(3E)	Elec 3"C
(2-3)	Elec 2-3"C
(3-1E)	Elec 3-1"C
(1T)	Telecom 1"C
(2-1T)	Telecom 2-1"C
(2T)	Telecom 2"C

△



Backfill Section Under Roadway/Parking Lot



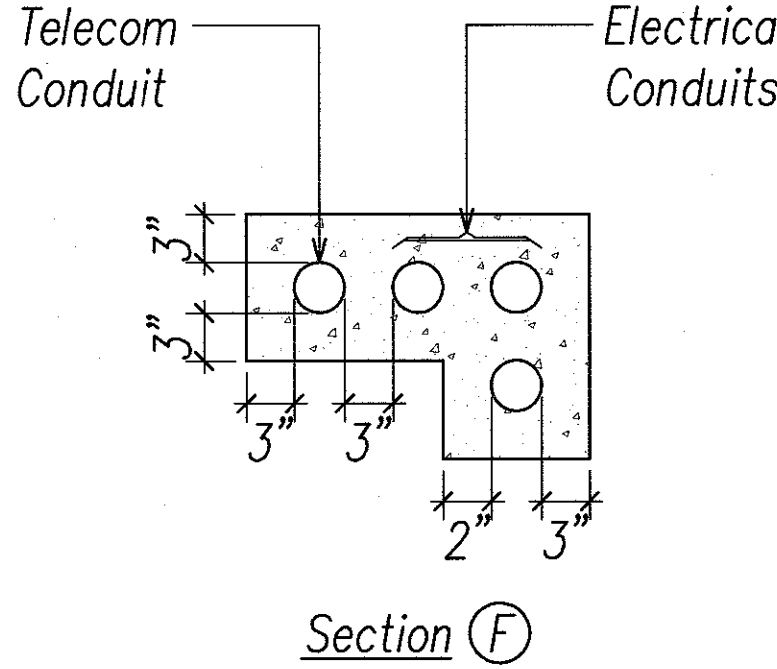
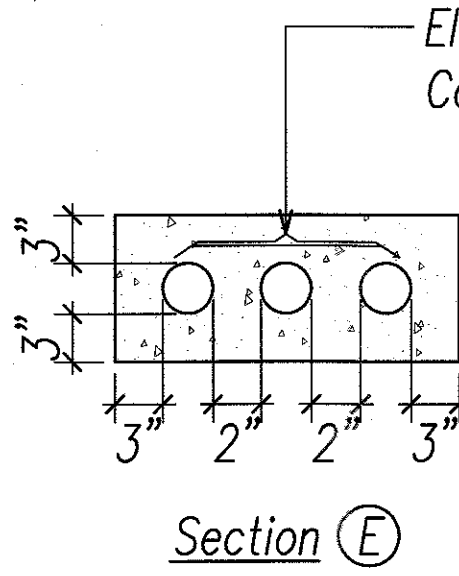
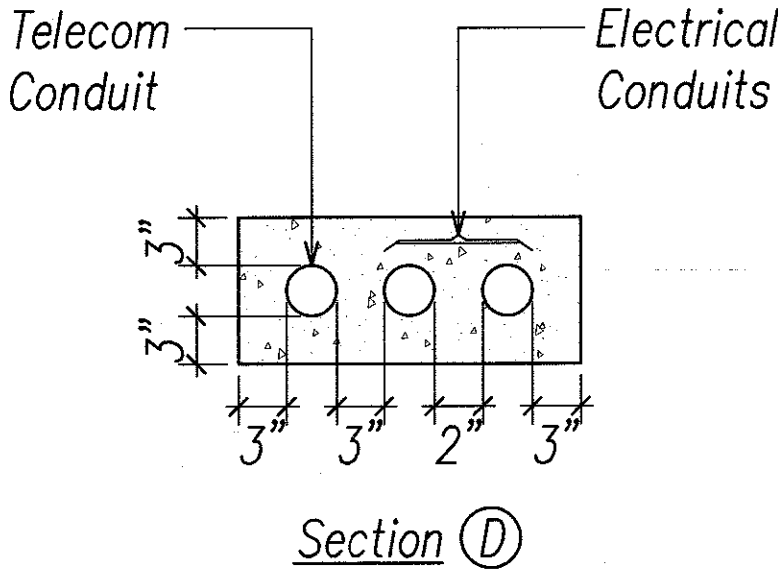
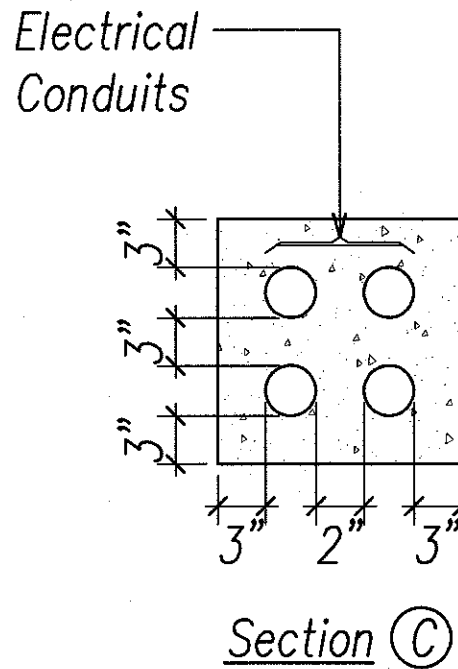
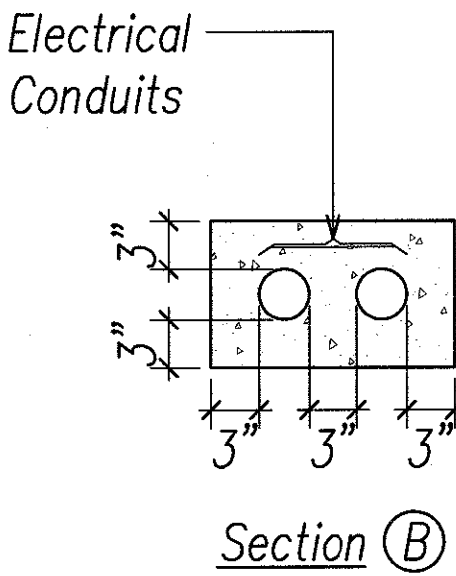
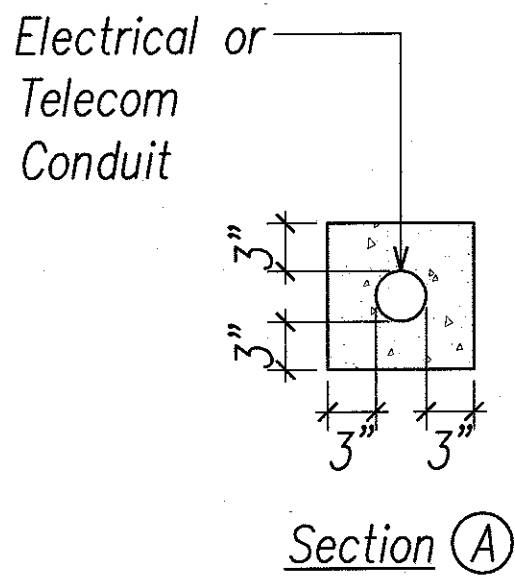
Backfill Section Under Unpaved Areas/Sidewalks

Duct Section Backfill Notes:

- Type "A" Backfill – Earth & Gravel. Rock Size to be 1" Max. & the Mixture to Contain Not More Than 50% by Volume of Rock Particles. 95% Compaction.
- Concrete – 3" Encasement, 2500 PSI Compressive Strength @ 28 Days.

Notes:

- "Caution" Warning Tape Required Over Entire Length of Conduits.
- 3" Separation Required Between Electrical and Telephone Conduits within Concrete Encasement.

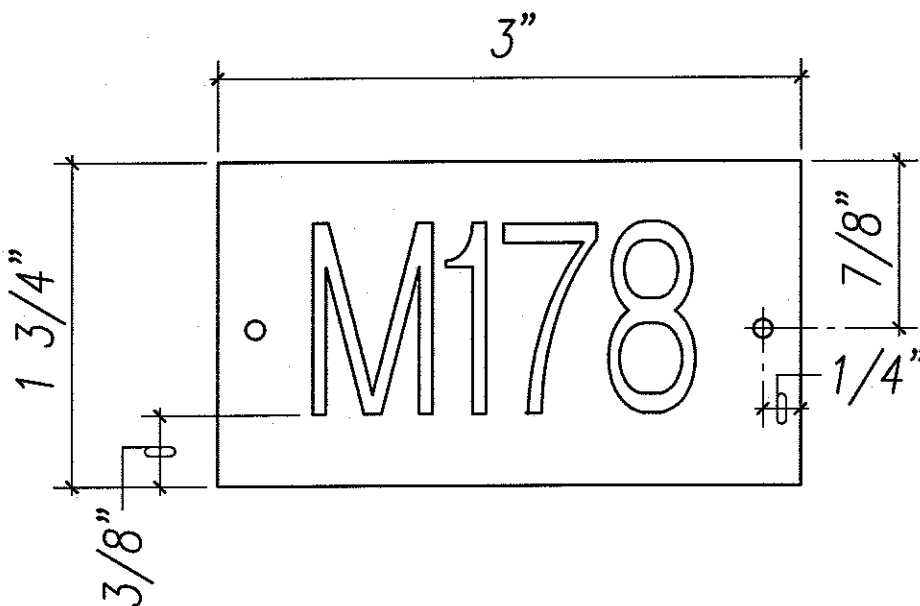


A DUCT SECTIONS E2.6 NOT TO SCALE

Notes:

- Use 2 Ply Laminated Flexible Plastic, Black-White, Thickness, Black Cap Sheet – 0.010", White Base Sheet – 0.052".
- Number Size shall be 1" High and Engraved 1/8" Wide, White in Color (Number as Required).
- Attach to Enclosure with 1/8" Rd. Stainless Steel Head Bolts and Nuts.
- Numbers Area Inscribed by Cutting Through "Black Cap Sheet" to Expose "White Letters".

B I.D. TAG E2.6 NOT TO SCALE

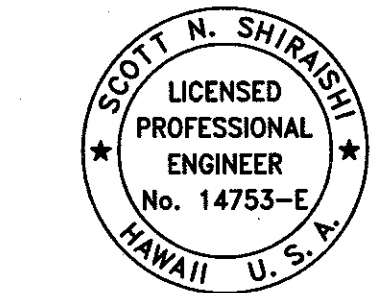


APPROVED BY:

HAWAIIAN TELCOM

DATE

E2.06



Signature: Scott N. Shirashi
Exp. Date of the License: 04-30-20
This work was prepared by me or under my supervision.

06-07-18	△ ADDED TELECOM DUCTLINES
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETAILS & DUCT SECTIONS	
MAUNA KEA MAINTENANCE BASEYARD DANIEL K. INOUE HIGHWAY Project No. 200A-01-10	
Scale: As Noted	Date: APRIL, 2018

SHEET No. E2.06 OF 26 SHEETS

PANEL "A" 2P400A MAIN CIRCUIT BREAKER, 240/120V, 1 PHASE, 3 WIRE, 10,000 A.I.C. INDUSTRIAL-BOLTED TYPE, SURFACE MOUNTED,													
CKT. NO.	USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	BREAKER		WIRE SIZE	KVA ON BUSESSES				WIRE SIZE	BREAKER		USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	CKT. NO.
		POLE	AMPS		L1		L2			POLE	AMPS		
1	L-VEHICLE STORAGE	1	20	12	0.8	0.5			12	1	20	EF-1	2
3	TANKLESS WATER HEATER (LAV)	1	20	12			2.4	0.2	12	1	20	EF-2	4
5	TANKLESS WATER HEATER (LAV)	1	20	12	2.4				12	1	20	EF-3	6
7	TANKLESS WATER HEATER (LAV)	1	20	12			2.4	2.4	12	2	20	TANKLESS WATER HEATER (SINK)	8,10
9,11	AIR COMPRESSOR	2	40	8	3.2	2.4			-	-	-	-	-
-	-	-	-	-			3.2	2.4	12	2	20	TANKLESS WATER HEATER (SINK)	12,14
13	R-220V (SMALL TOOL ROOM)	2	30	12	0.3	2.4			-	-	-	-	-
15	-	-	-	-			0.3	4.8	12	2	20	TANKLESS WATER HEATER (SHWR)	16,18
17,19	ACCU	2	20	12	1.1	4.8			-	-	-	-	-
-	-	-	-	-			1.1	0.5		1	20	SPARE	20
21,23	FCU-1	2	20	12	0.6	0.5				1	20	SPARE	22
-	-	-	-	-			0.6	9.0	2	2	100	PANEL 'B'	24,26
25,27	FCU-1	2	20	12	0.6	10.6			-	-	-	-	26
-	-	-	-	-			0.6	3.9	2	40	8	PV STRING	28,30
29,31	FCU-2	2	20	12	0.4	3.9			-	-	-	-	-
-	-	-	-	-			0.4	3.9	2	40	8	PV STRING	32,34
33,35	PV STRING	2	40	8	3.9	3.9			-	-	-	-	-
-	-	-	-	-			3.9	3.0	2	40	8	PV STRING	36,38
37	PFB					3.0			-	-	-	-	-
39	PFB											PFB	40
41	PFB											PFB	42
CONNECTED LOAD PER PHASE					45.3		45.0						
TOTAL CONNECTED LOAD (KVA)													90.3
DEMAND FACTOR													80%
TOTAL DEMAND LOAD (KVA)													72.2
TOTAL DEMAND LOAD (AMPS)													301.0

* - PROVIDE BREAKER LOCKABLE IN OFF POSITION FOR 2 POLE CKT 16,18

PANEL "B"		2P100A MAIN CIRCUIT BREAKER, 240/120V, 1 PHASE, 3 WIRE, 10,000 A.I.C. INDUSTRIAL-BOLTED TYPE, SURFACE MOUNTED,												
CKT. NO.	USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	BREAKER		WIRE SIZE	KVA ON BUSESSES				WIRE SIZE	BREAKER		USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	CKT. NO.	
		POLE	AMPS		L1		L2			POLE	AMPS			
1	L-SHOP	1	20	12	0.4	1.0			12	2	20	R-OFFICE 1	2,4	
3	L-STORAGE/BATH	1	20	12			0.4	0.5		-	-	-	-	
5	L-EXTERIOR REAR	1	20	12	0.2	0.5			12	2	20	R- OFFICE 2 /COMPUTER/COUNTER	6,8	
7	R-JANITOR/OFFICE 2	1	20	12			0.2	0.4		-	-	-	-	
9,11,13	R-SMALL TOOL ROOM	3	20	12	0.6	1.0			12	3	20	R-MICROWAVE/FRIG/OFFICE 2	10,12,14	
-	-	-	-	-				1.0		-	-	-	-	
-	-	-	-	-	0.4	0.4				-	-	-	-	
15	R-BATHROOM	1	20	12			0.4	0.4	12	2	20	R-WATER/ICE MACHINE	16,18	
17	R-EXTERIOR	1	20	12	0.2	1.3				-	-	-	-	
19	GENERATOR BATT. CHR/GEATER	1	20	12			0.5	0.5	12	1	20	OIL/WATER MONITORING PANEL	20	
21,23	R-220V (VEHICLE STORAGE)	2	20	12	0.3	0.5			12	1	20	FUEL MONITORING PANEL	22	
-	-	-	-	-			0.3	0.6	12	1	20	R-VEHICLE STORAGE	24	
25,27	PANEL 'G'	2	70	8	3.0	0.6			12	1	20	R-VEHICLE STORAGE	26	
-	-	-	-	-			3.0	0.4	12	1	20	R-MEZZANINE	28	
29	PFB					0.2			12	1	20	L - SHOP EXTERIOR FRONT	30	
31	L - PKG LOT	1	20	12			0.2	0.2	12	1	20	L - PKG LOT	32	
33	RAINWATER PUMP	1	20	12	0.5	0.5				1	20	SPARE	34	
35	SPARE	1	20				0.5					PFB	36	
37	PFB											PFB	38	
39	PFB											PFB	40	
41	PFB											PFB	42	
CONNECTED LOAD PER PHASE					11.6		9.5							
TOTAL CONNECTED LOAD (KVA)													21.1	
DEMAND FACTOR													90%	
TOTAL DEMAND LOAD (KVA)													19.0	
TOTAL DEMAND LOAD (AMPS)													79.1	

PANEL "C"		2P200A MAIN CIRCUIT BREAKER, 240/120V, 1 PHASE, 3 WIRE, 10,000 A.I.C. INDUSTRIAL-BOLTED TYPE, SURFACE MOUNTED, NEMA 1											
CKT. NO.	USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	BREAKER		WIRE SIZE	KVA ON BUSESSES			WIRE SIZE	BREAKER		USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	CKT. NO.	
		POLE	AMPS		L1	L2	POLE		AMPS				
1	L-CABIN	1	20	12	0.3	0.2		12	1	20	L-EXTERIOR	2	
3	L-BATH	1	20	12			0.3	0.0	12	1	20	S	4
5	R-STORAGE 1	1	20	12	0.8	1.0		12	1	20	R-STORAGE 2/BATH 2	6	
7	R-BATH 1/EXTERIOR	1	20	12			0.6	0.5		1	20	SPARE	8
9	R-COUNTER	1	20	12	0.4	0.0		12	1	20	S	10	
11	R-COUNTER	1	20	12			0.4	4.8	12	1	20	TANKLESS WATER HEATER (SHWR)	12,14
13	R-REFRIG	1	20	12	1.0	4.8		-	-	-	-	-	-
15	SPARE	1	20				0.5	3.8	12	1	20	R-RANGE	16,18
17	TANKLESS WATER HEATER (LAV)	1	20	12	2.4	3.8		-	-	-	-	-	-
19,21	TANKLESS WATER HEATER (SHWR)	1	20	12			4.8	2.4	12	2	20	TANKLESS WATER HEATER (SINK)	20,22
-	-	-	-	-	4.8	2.4		-	-	-	-	-	-
23	PFB							2.4	12	1	20	TANKLESS WATER HEATER (LAV)	24
25	PFB											PFB	26
27	PFB											PFB	28
29	PFB											PFB	30
CONNECTED LOAD PER PHASE					21.9		20.5						
TOTAL CONNECTED LOAD (KVA)													42.4
DEMAND FACTOR													90%
TOTAL DEMAND LOAD (KVA)													38.2
TOTAL DEMAND LOAD (AMPS)													159.0

* - PROVIDE BREAKER LOCKABLE IN OFF POSITION FOR 2 POLE CKTS 12,14 AND 19,21

PANEL "G"				2P70A MAIN CIRCUIT BREAKER, 240/120V, 1 PHASE, 3 WIRE, 10,000 A.I.C. INDUSTRIAL-BOLTED TYPE, SURFACE MOUNTED,											
CKT. NO.	USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	BREAKER		WIRE SIZE	KVA ON BUSSES				WIRE SIZE	BREAKER		USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN, W-WARMER	CKT. NO.		
		POLE	AMPS		L1		L2			POLE	AMPS				
1	FUEL DISPENSER*	1	20	12	0.5	1.2			12	1	30	FUEL PUMP*	2		
3	S	1	20				0.0	1.2	12	1	30	FUEL PUMP*	4		
5	L-FUEL DISPENSER	1	20	12	0.4	0.4			12	1	20	L-FUEL PUMP	6		
7	L-AREA*	1	20	12			0.2	1.5	12	1	30	AIR COMPRESSOR*	8		
9	PFB											PFB	10		
11	PFB											PFB	12		
CONNECTED LOAD PER PHASE					2.5		2.9								
TOTAL CONNECTED LOAD (KVA)													5.4		
DEMAND FACTOR													90%		
TOTAL DEMAND LOAD (KVA)													4.9		
TOTAL DEMAND LOAD (AMPS)													20.3		

* - CIRCUIT BREAKER WITH SHUNT TRIP CONTROL

DATE _____
SURVEY PLOTTED BY _____
DESIGNED BY _____
NOTE BOOK _____
QUANTITIES BY _____
CHECKED BY _____
No. _____

PANEL SCHEDULES
NOT TO SCALE

06-07-18

REVISED PANEL SCHEDULES

DATE

REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SCOTT N. SHIRASHI
LICENSED PROFESSIONAL ENGINEER
No. 14753-E
HAWAII U.S.A.

04-30-20
Exp. Date of the License

This work was prepared by me or under my supervision.

PANEL SCHEDULES

MAUNA KEA MAINTENANCE BASEYARD

DANIEL K. INOUEY HIGHWAY

Project No. 200A-01-10

Date: APRIL, 2018

Scale: As Noted

SHEET No. E2.09 OF 26 SHEETS

ADD. 139