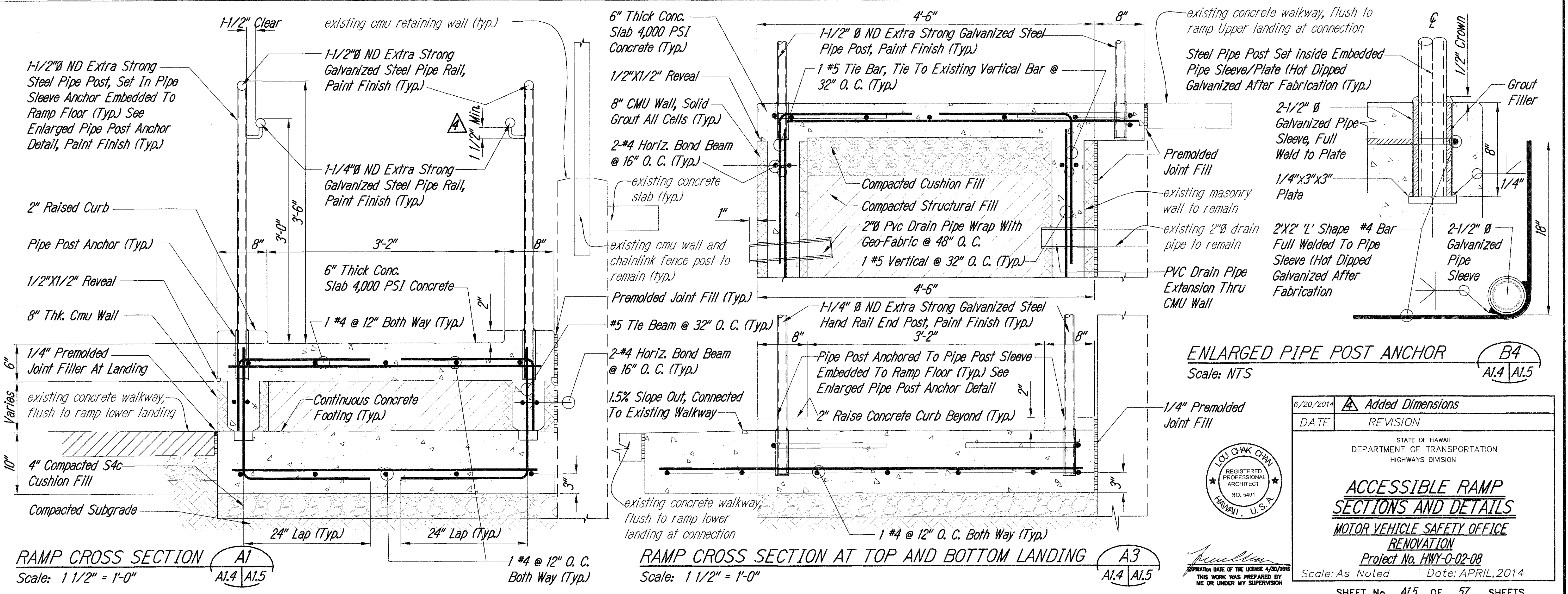
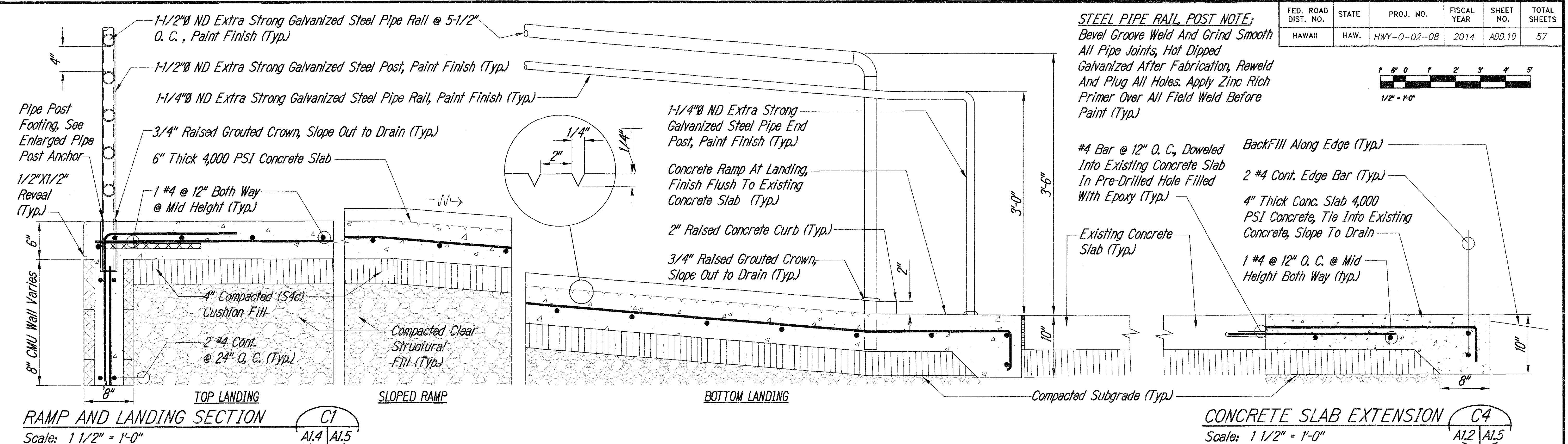
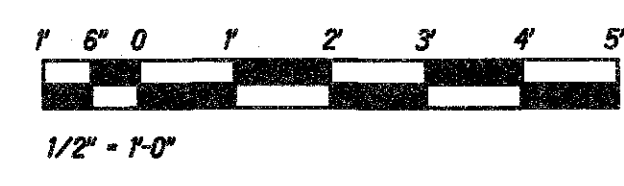


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.10	57

STEEL PIPE RAIL, POST NOTE:
 Bevel Groove Weld And Grind Smooth All Pipe Joints, Hot Dipped Galvanized After Fabrication, Reweld And Plug All Holes. Apply Zinc Rich Primer Over All Field Weld Before Paint (Typ.)



ENLARGED PIPE POST ANCHOR B4
 Scale: NTS


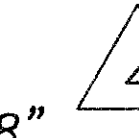

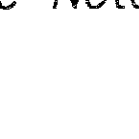






6/20/2014	Added Dimensions
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
ACCESSIBLE RAMP SECTIONS AND DETAILS	
MOTOR VEHICLE SAFETY OFFICE RENOVATION	
Project No. HWY-0-02-08	
Scale: As Noted	Date: APRIL, 2014
SHEET No. A1.5 OF 57 SHEETS	

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.47	57

ELECTRICAL SYMBOLS

	Existing Flood Light To Be Removed
	Existing Post Light
	Post Light
	Existing Wall Luminaire
	Wall Luminaire, Night Light
	Existing Ceiling Fluorescent Luminaire To Be Removed
	Existing Ceiling Fluorescent Luminaire
	Ceiling Fluorescent Luminaire
	Ceiling Fluorescent Luminaire With Emergency Battery Pack
	Existing Track To Be Removed
	Ceiling Exit Light, Blackened Segments Indicates Illuminated Sides And Arrows Indicates Direction
	Existing Wall Exit Light To Be Removed
	Existing Switch To Be Removed
	Existing Ceiling Occupancy Sensor To Be Removed
	Ceiling Occupancy Sensor, Dual Technology Type
	Wall Occupancy Sensor, Dual Technology Type, +4'-0" To Top Of The Device Plate
	Existing Duplex Convenience Outlet To Be Removed
	Duplex Convenience Outlet, 3W20A, Grounding Type, +18" To Bottom Of Device Plate Unless Otherwise Noted
	Existing Duplex Convenience GFI Outlet To Be Removed
	Duplex Convenience Outlet, 3W20A, Ground Fault Interrupter Type, +18" To Bottom Of Device Plate Unless Otherwise Noted
	Existing Special Outlet To Be Removed
	Power Pole
	Equipment Connection
	Existing Water Heater Connection
	Existing Wall Junction Box To Be Removed
	Existing Wall Junction Box
	Ceiling Junction Box, 4-11/16" Square Minimum
	Existing Transformer To Be Removed
	Existing Panelboard To Be Removed
	Existing Panelboard
	Existing Telephone Cabinet
	Existing Telephone/Data Outlet To Be Removed
	Telephone/Data Outlet, +18" To Bottom Of Device Plate Unless Otherwise Noted

	Existing Fire Alarm Manual Station To Be Removed
	Fire Alarm Manual Station, +48" To Top Of Device Plate
	Existing Fire Alarm Audible Device To Be Removed
	Fire Alarm Audible Device/Flashing Light, +80"
	Fire Alarm Flashing Light, +80"
	Addressable Fire Alarm Automatic Smoke Detector
	Existing Fire Alarm Panel To Be Removed
	Fire Alarm Panel
	Existing Motor Outlet To Be Removed
	Existing Motor Outlet To Be Relocated
	Existing Motor Outlet
	Relocated Motor Outlet
	Motor Outlet
	Existing Motor Controller To Be Relocated
	Existing Motor Controller
	Relocated Motor Controller
	Motor Controller
	Existing Safety Switch To Be Relocated
	Existing Safety Switch
	Relocated Safety Switch
	Safety Switch
	Weatherproof
	Luminaire Designation, Type "A" Indicated

-----	Wiring In Existing Raceway
-x--x--x-	Wiring In Existing Raceway To Be Removed
-x--EOH--x-	Existing Overhead Wiring To Be Removed
---OH---	Overhead Wiring
-----	Wiring In Raceway Concealed In Wall Or Ceiling
-----	Wiring In Raceway Concealed Underground Or Below Grade
~~~~~	Wiring In Flexible Raceway

- NOTES:**
- Any Circuit With No Further Designation Indicates A Two Wire Circuit. Circuits With Additional Wires Are Indicated As Follows: , 3 Wires , 4 Wires, Etc.
  - Ground Wire Per National Electrical Code Indicated As Follows: . Match Adjacent Wall Or Ceiling Surrounding.
  - All Exposed Conduit And Boxes Shall Be Painted To

City And County Of Honolulu  
Revised Ordinance Chapter 32,  
Honolulu County Code 1990, As Ammended

To the best of my knowledge, this project's design substantially conforms to the Building Energy Conservation Code for:

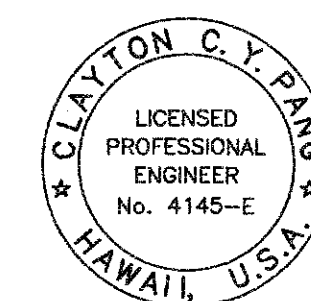
Building Component System  
☒ Electrical Component System  
Mechanical Component System

Signature: Date: April 2014  
Name: Clayton C. Y. Pang, P. E.  
Title: Principal  
License No.: 4145-E

### Building Energy Efficiency Standard Calculations

Exterior Lighting Power Allowance NA Installed NA  
Interior Lighting Power Allowance 7,424 W Installed 7,192 W

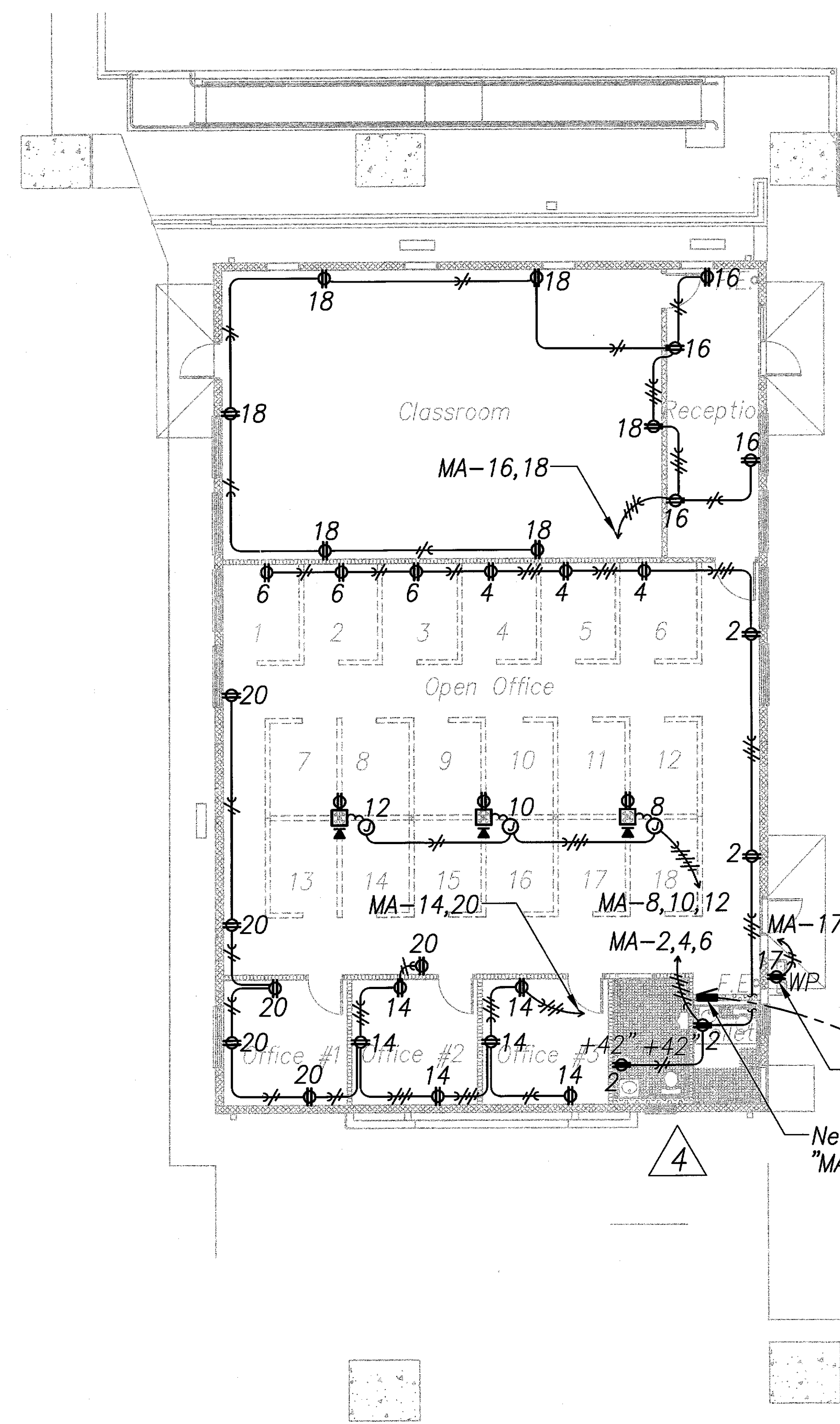
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	



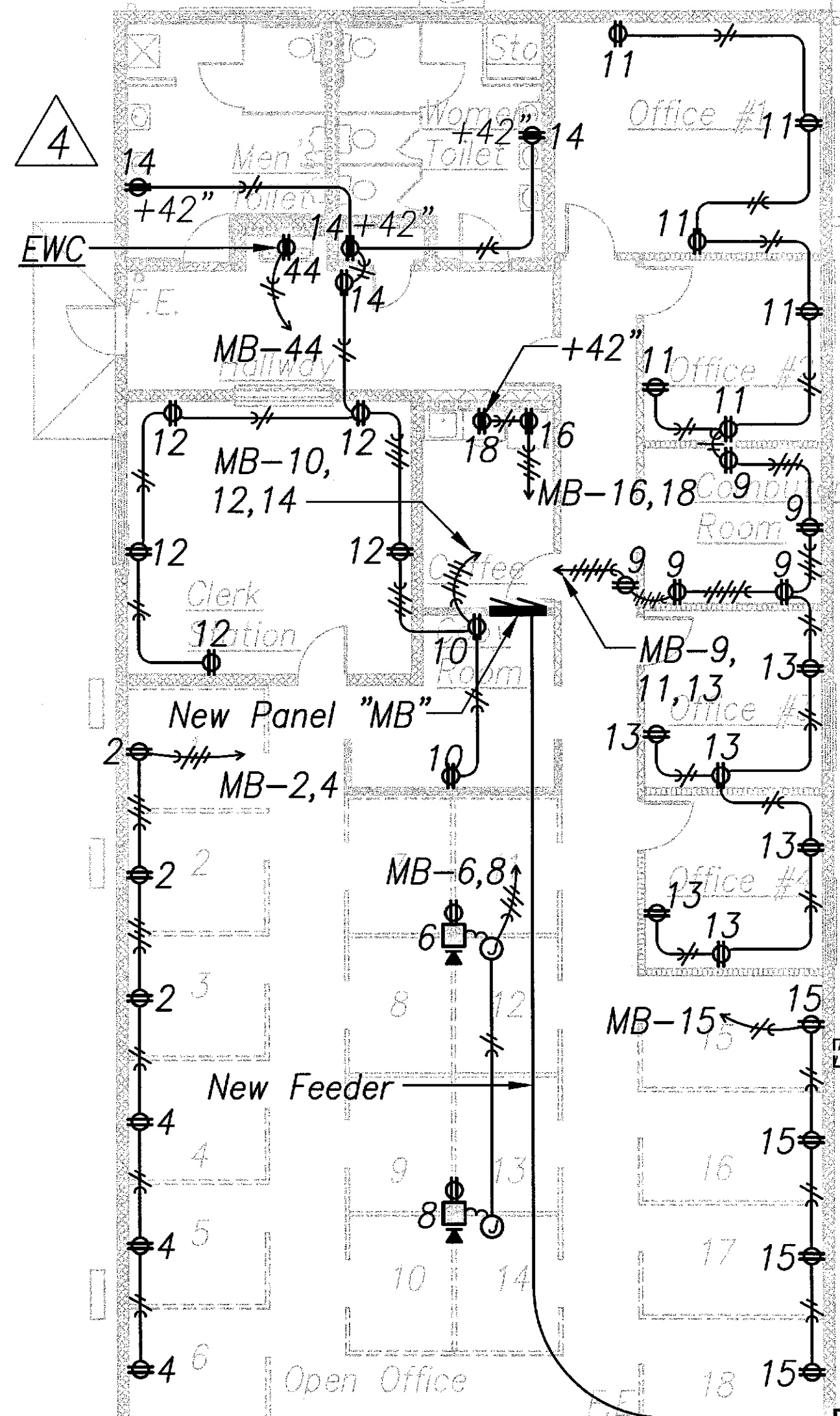
EXPIRATION DATE OF THE LICENSE 4/30/2016  
THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

6/20/14	4 Added Mounting Heights
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>ELECTRICAL SYMBOLS, ENERGY CALCULATIONS</b> <b>MOTOR VEHICLE SAFETY OFFICE RENOVATION</b> Project No. HWY-0-02-08 Scale: As Noted Date: April 2014	
SHEET No. E1.0 OF 57 SHEETS	

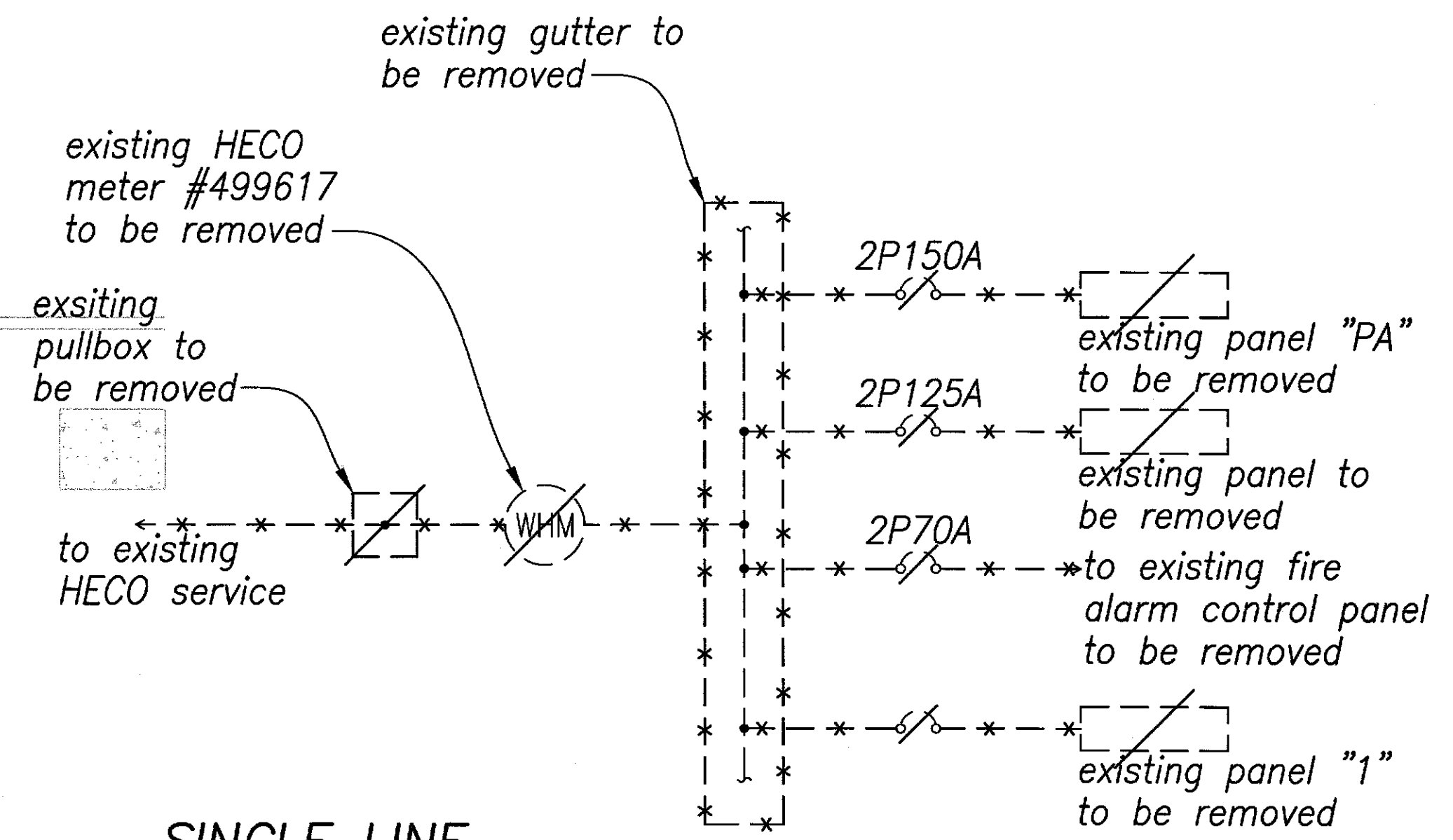
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.53	57



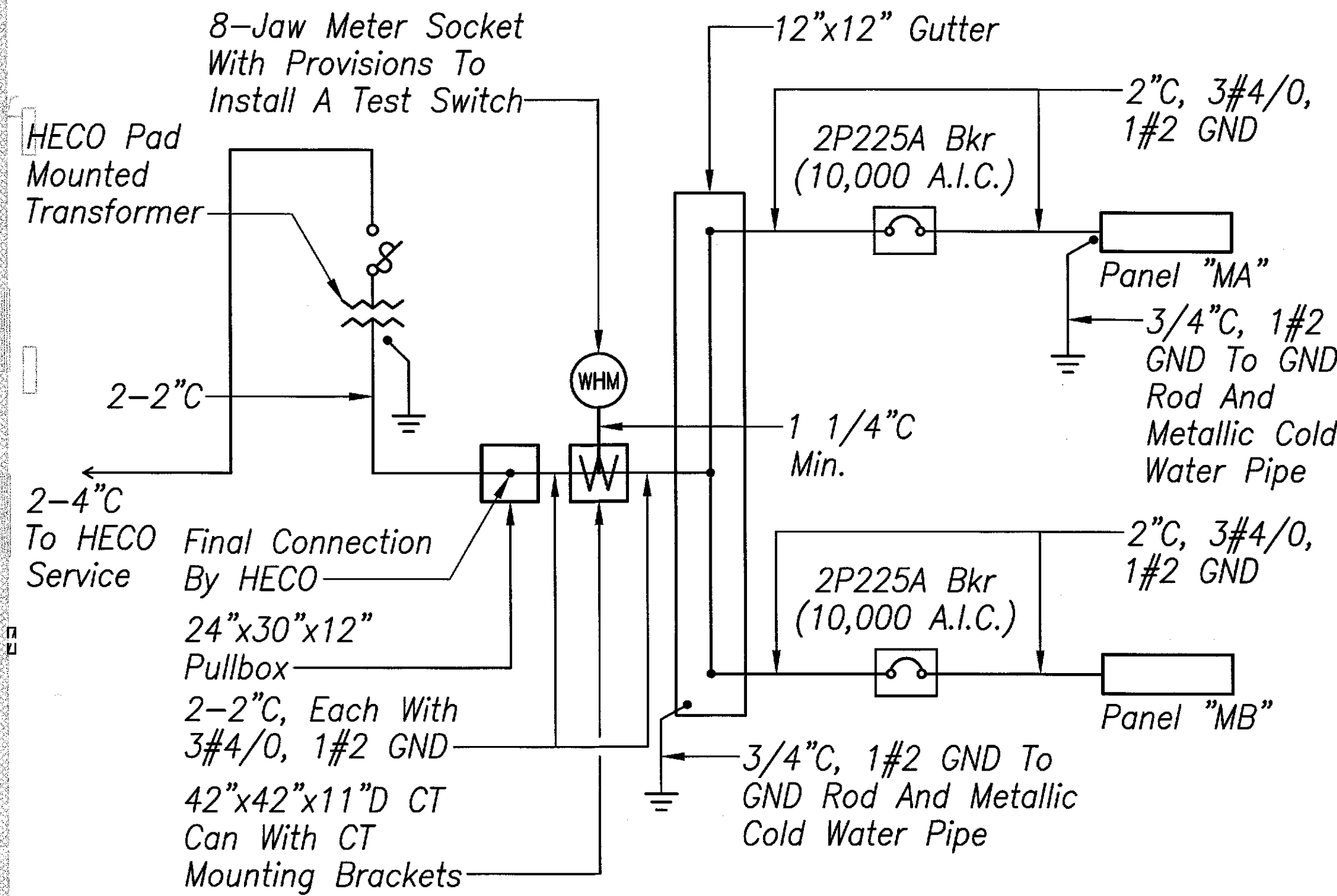
**BUILDING 'A'**  
**POWER PLAN - NEW WORK** 1  
Scale - 1/8" = 1'-0" E2.4 | E2.4



**BUILDING 'B'**  
**POWER PLAN - NEW WORK** 2  
Scale - 1/8" = 1'-0" E2.4 | E2.4

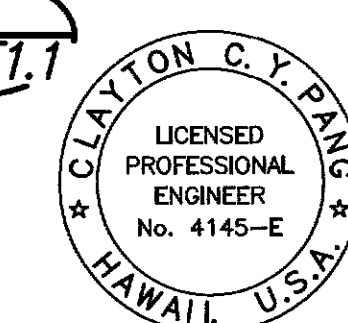


**SINGLE LINE**  
**DIAGRAM - DEMOLITION WORK** A  
Scale - NTS E2.4 | E2.4



**SINGLE LINE**  
**DIAGRAM - NEW WORK** B  
Scale - NTS E2.4 | E2.4

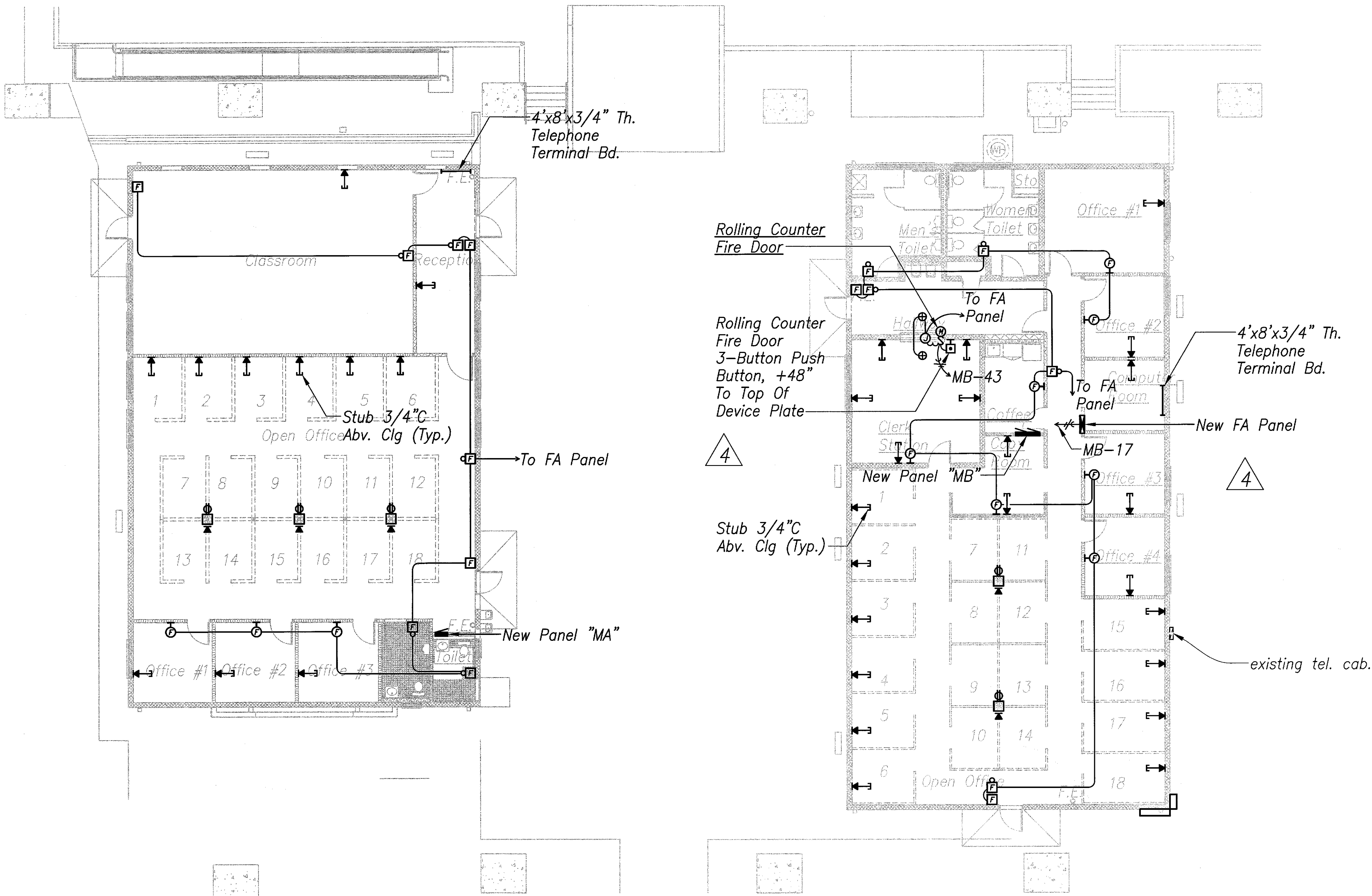
6/20/14	Revised Outlet Mounting Heights
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>BUILDING 'A' &amp; 'B' POWER PLANS - NEW WORK, SINGLE LINE DIAGRAMS - DEMOLITION &amp; NEW WORK</b>	
<b>MOTOR VEHICLE SAFETY OFFICE RENOVATION</b>	
<b>Project No. HWY-0-02-08</b>	
Scale: As Noted	Date: April 2014



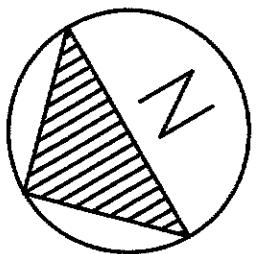
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ME OR UNDER MY SUPERVISION



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.54	57

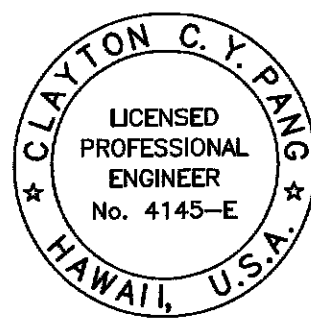


SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



**BUILDING 'A' SIGNAL  
SIGNAL PLAN - NEW WORK**  
Scale - 1/8" = 1'-0"

**BUILDING 'B' SIGNAL  
SIGNAL PLAN - NEW WORK**  
Scale - 1/8" = 1'-0"



CLAYTON C.Y. PANG  
LICENSED PROFESSIONAL ENGINEER  
No. 4145-E  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

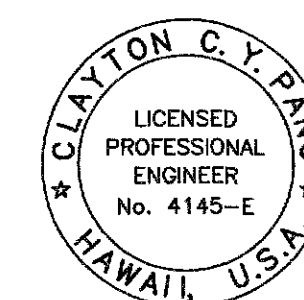
6/20/14	Indicated Push Button Mounting Height
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>BUILDING 'A' &amp; 'B' SIGNAL PLANS - NEW WORK</b> <b>MOTOR VEHICLE SAFETY OFFICE RENOVATION</b> Project No. HWY-0-02-08 Scale: As Noted Date: April 2014	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.56	57

4 New Panel "MA" 240/120 Volts 1Ø, 3WSN 3P225A Main Breaker Branch Breaker I.C. 10,000 Amps Flush, 20" Wide Cabinet, Industrial Bolted					
CKT NO.	BKR	L O A D	KVA		WIRE
			L1	L2	
1	1P20A	Lights, EF-1	1.4		12
2		Recep	1.0		
3		Lights		1.3	
4		Recep		1.0	
5		Lights	0.9		
6		Recep	1.0		
7		Lights - NL		0.7	
8		Recep		1.0	
9		Lights - Courtyard NL	0.8		10
10		Recep	1.0		12
11		Lights - Courtyard NL		0.8	10
12		Recep		1.0	12
13		Lights - Roof Flood NL	0.4		
14		Recep	1.0		
15		Spare			
16		Recep		1.0	12
17		Recep - EWC	1.0		
18		Recep	1.0		
19,21	2P30A	Relocated Cu-12/Fcu-12	2.0	2.0	8
20	1P20A	Recep		1.0	12
22,24	2P45A	Cu-14/Fcu-14	2.5	2.5	8
23,25	2P30A	Relocated Cu-11/Fcu-11	2.0	2.0	8
26,28	2P30A	Cu 0-A2/Fcu 0-A2	1.7	1.7	8
27,29	2P30A	Cu 0-A1/Fcu 0-A1	1.7	1.7	8
30,32	2P45A	Cu-15/Fcu-15	2.5	2.5	8
31,33	2P30A	Relocated Cu-13/Fcu-13	2.0	2.0	8
34,36	2P20A	Cu-16/Fcu-16	1.4	1.4	12
35	1P20A	Spare			
37	1P	P F B			
38					
39					
40					
41					
42					
T O T A L S :			25.3	23.6	

New Panel "MB" 240/120 Volts 1Ø, 3WSN 225A Main Lugs Only Branch Breaker I.C. 10,000 Amps Flush, 2-20" Wide Cabinet, Industrial Bolted						New Panel "MB" (Continued)					
CKT NO.	BKR	L O A D	KVA		WIRE	CKT NO.	BKR	L O A D	KVA		WIRE
			L1	L2					L1	L2	
1	1P20A	Lights	1.2		12	31,33	2P20A	Exist Cu-7/Fcu-7	1.2	1.2	12
2		Recep	1.0			32,34	1P20A	Cu-3/Fcu-3	1.0	1.0	12
3		Lights		1.1							
4		Recep		1.0							
5		Lights, EF-2, EF-3, EF-4	1.3			35,37	2P25A	Cu-6/Fcu-6	1.4	1.4	10
6		Recep	1.0			36,38	2P25A	Relocated Cu-4/Fcu-4	1.6	1.6	10
7		Lights - NL		0.6							
8		Recep		1.0							
9			1.0			39,41	2P20A	Relocated Cu-5/Fcu-5	1.2	1.2	12
10			1.0			40,42	2P30A	Existing Water Heater	1.8	1.8	8
11				1.0							
12				1.0							
13			1.0			43	1P20A	Rolling Counter Fire Door	1.5		12
14			1.0			44		Recep - EWC	1.0		12
15				1.0		45		Spare			
16				1.0		46					
17		FA Panel	1.0			47					
18		Recep	1.0			48					
19,21	2P20A	Cu-10/Fcu-10	0.9	0.9		49	1P	P F B			
20,22	2P20A	Cu-1/Fcu-1	0.9	0.9		50					
						51					
						52					
23,25	2P25A	Exist Cu-9/Fcu-9	1.6	1.6	10	53					
24,26	2P30A	Cu 0-B/Fcu 0-B	1.7	1.7	8	54					
						55					
						56					
27,29	2P15A	Exist Cu-8/Fcu-8	0.7	0.7	12	57					
28,30	2P15A	Cu-2/Fcu-2	0.6	0.6	12	58					
						59					
						60					
						T O T A L S :					
						27.6 22.3					

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



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

6/20/14	4 Changed Panel To Flush Mounted
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PANEL SCHEDULES	
MOTOR VEHICLE SAFETY OFFICE RENOVATION	
Project No. HWY-0-02-08	
Scale: As Noted	Date: April 2014
SHEET No. E3.1 OF 57 SHEETS	



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08	2014	ADD.57	57

## FIRE ALARM NOTES

- ② - Indicates Number Of #14 Wires, 2-Wires Indicated.
- 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. 2006 NFPA 1.  
Fire Safety During Alteration
- 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 AHJ Shall Have The Authority To Require Alternate Measures Of Protection Until 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. A Fire Watch Shall Be Required As Specified In Sections 13.3.4.3.5.2(3), 13.7.1.4.4, 16.5.4.20.3.6, 34.6.3.3, 41.2.2.5, 41.2.2.6, 41.2.4, 41.3.4, 41.4.1, 34.5.4.3, And 25.1.8 At No Cost To AHJ. NFPA 1 2006 As Amended.  
  
AHJ Approval  
4. 13.1.1 The AHJ Shall Have The Authority To Required That Construction Documents For All Fire Protection Systems Be Submitted For Review And Approval And A Permit Be Issued Prior To The Installation, Rehabilitation, Or Modification. Further, The AHJ Shall Have The Authority To Require That Full Acceptance Tests Of The Systems Be Performed In The

AHJ'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 AHJ As To Installation And Location And Shall Be Subject To Acceptance Tests Required By The Appropriate County Agency. NFPA 1, Chapter 13 As Amended.

- Detection, Alarm, And Communication Systems
- 13.7.1.1 Where Building Fire Alarm Systems Or Automatic Fire Detectors Are Required By Other Sections Of This Code, They Shall Be Provided And Installed In Accordance With NFPA 70, NFPA 72 (1999 Edition), National Fire Alarm Code, And Section 13.7. 2006 NFPA 1. ④
  - 13.7.1.4.9.8 Audibility. The Alarm Signal Shall Be A Distinctive Sound, Which Is Not Used For Any Other Purpose Other Than The Fire Alarm. Alarm-Signaling Devices Shall Produce A Sound That Exceeds The Prevailing Equivalent Sound Level In The Room Or Space By 15 Decibels Minimum, Or Exceeds Any Maximum Sound Level With With A Duration Of 60 Seconds Minimum By 5 Decibels Minimum, Whichever Is Louder. Sound Levels For Alarm Signals Shall Be 110 Decibels Maximum. 2006 NFPA 1, Amended. ④  
Ensure Audibility Is Met Through All Occupiable Areas And Spaces. This Will Be Thoroughly Checked At Time Of The Alarm Acceptance Test.

- Approval And Acceptance
- 13.7.3.2.1.2 Before Requesting Final Approval Of The Installation, If Required By The AHJ, The Installing Contractor Shall Furnish A Written Statement Stating That The System Has Been Installed In Accordance With Approved Plans And Tested In Accordance With The Manufacturer's Specifications And The Appropriate NFPA Requirements. [72:4.5.1.2]  
13.7.3.2.1.3* The Record Of Completion Form, Figure 4.5.2.1 Of NFPA 72 (1999 Edition), Shall Be Permitted To Be A Part

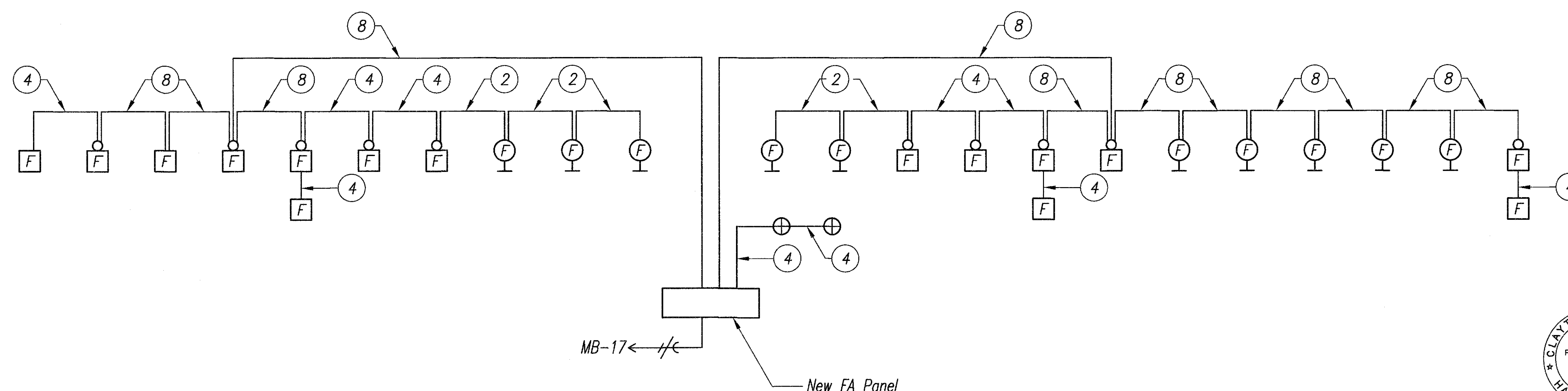
Of The Written Statement Required In 13.7.3.2.1.2. When More Than One Contractor Has Been Responsible For The Installation, Each Contractor Shall Complete The Portions Of The Form For Which That Contractor Had Responsibility.  
13.7.3.2.1.4 The Record Of Completion Form, Figure 4.5.2.1 Of NFPA 72 Shall Be Permitted To Be A Part Of The Documents That Support The Requirements Of 13.7.3.2.1.3. 2006 NFPA 1.

### Notification Devices

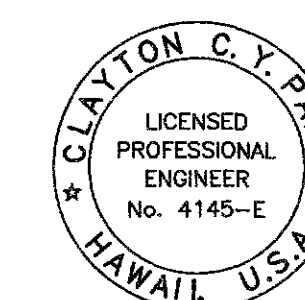
- 13.7.1.4.9.5 Unless Otherwise Provided In 13.7.1.4.9.5.1 Through 13.7.1.4.9.5.6, Notification Signals For Occupants To Evacuate Shall Be Audible And Visible Signals In Accordance With NFPA 72 (1999 Edition) And ICC/ANSI A117.1, American Standard For Accessible And Usable Buildings And Facilities, Or Other Means Of Notification Acceptable To The AHJ Shall Be Provided. NFPA 1 2006, Chapter 13 As Amended.  
13.7.1.4.9.5.1 Areas Not Subject To Occupancy By Persons Who Are Hearing Impaired Shall Not Be Required To Comply With The Provisions For Visible Signals. NFPA 1 2006, Chapter 13 As Amended.

### Manual Fire Alarm Boxes

- 13.7.1.4.7.3 A Manual Fire Alarm Box Shall Be Provided In The Natural Exit Access Path Near Each Required Exit From An Area, Unless Modified By Another Section Of This Code.  
13.7.1.4.7.4* Additional Manual Fire Alarm Boxes Shall Be Located So That, On Any Given Floor In Any Part Of The Building, No Horizontal Distance On That Floor Exceeding 200 FT (60M) Shall Need To Be Traversed To Reach A Manual Fire Alarm Box [9.6.2.4]  
13.7.3.3.6 Manual Fire Alarm Boxes Shall Be Located Within 5 FT (1.5M) Of The Exit Doorway Opening At Each Exit On Each Floor. The Location Of Manual Fire Alarm Boxes May Be Modified By The AHJ. 2006 NFPA 1, Amended.



**FIRE ALARM RISER DIAGRAM**



CLAYTON C. Y. PANG  
LICENSED PROFESSIONAL ENGINEER  
No. 4145-E  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

6/20/14	④ Revised Fire Alarm Note
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>FIRE ALARM RISER DIAGRAM</b> <b>FIRE ALARM NOTES</b>  <b>MOTOR VEHICLE SAFETY OFFICE</b> <b>RENOVATION</b> Project No. HWY-0-02-08 Scale: As Noted Date: April 2014	
SHEET No. E3.2 OF 57 SHEETS	