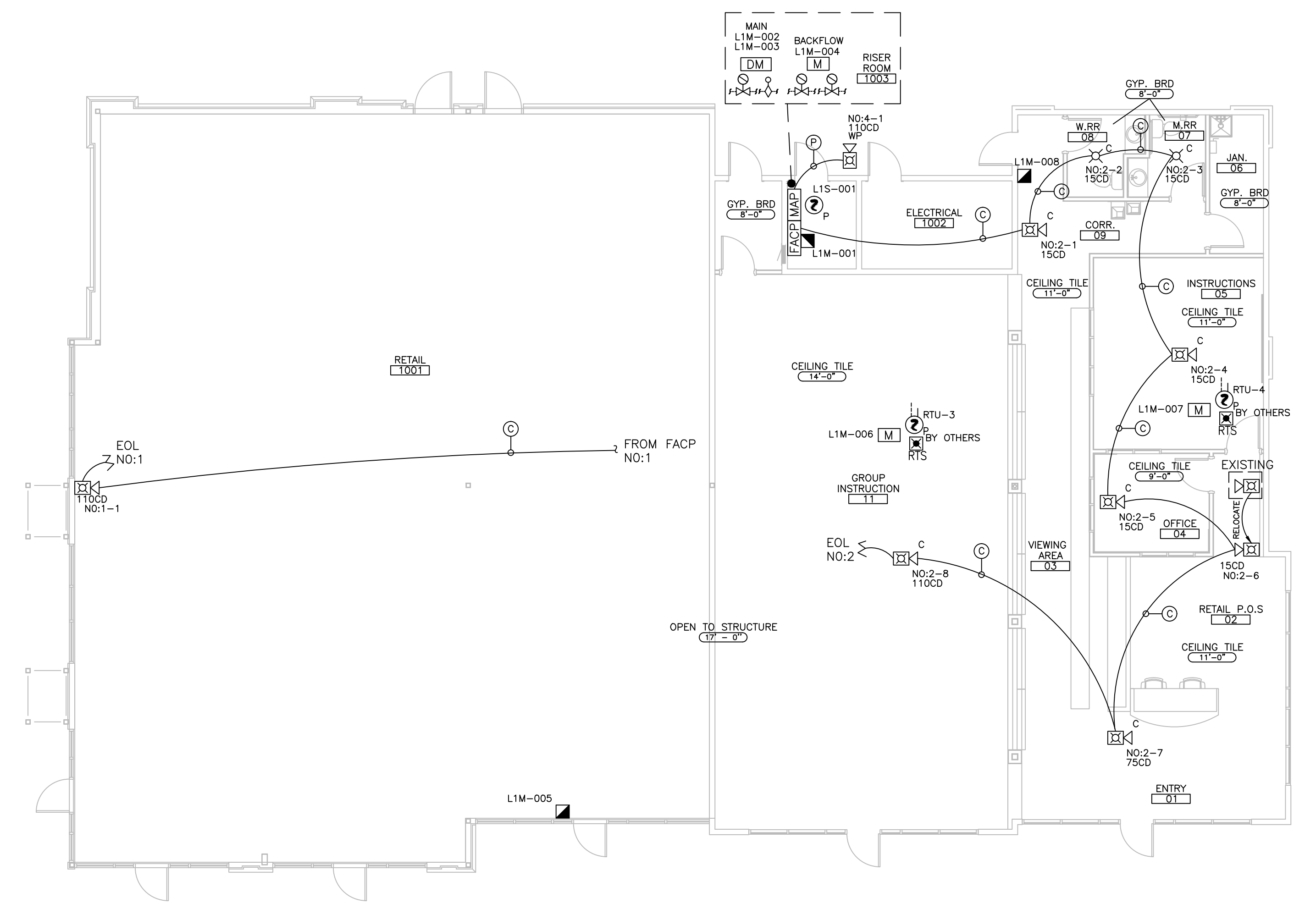
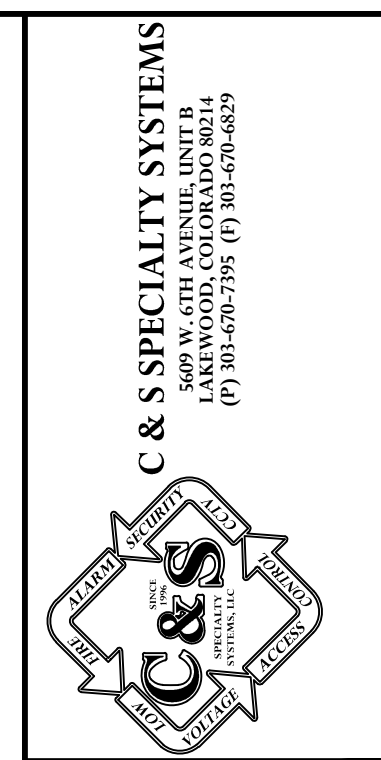
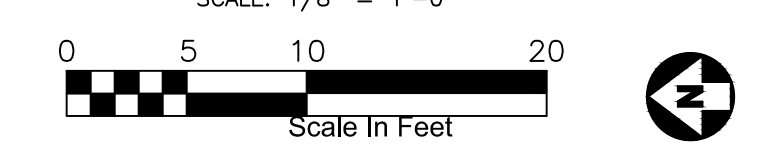


ONE-LINE RISER DIAGRAM



RIPPLE EFFECT
FIRE ALARM PLAN - SHOPS F
SCALE: 1/8" = 1'-0"



REVISIONS	DATE	COMMENTS
1	11/16/15	SUBMITTAL
2	3-14-16	AS-BUILTS

NICET - FIRE ALARM SYSTEM
 NAME: MICHAEL SCHWAB
 FIRE PROTECTION ENGINEERING TECHNOLOGY
 FIRE ALARM SYSTEMS
 CERTIFICATE: 115938
 EXPIRES: MARCH 01, 2018

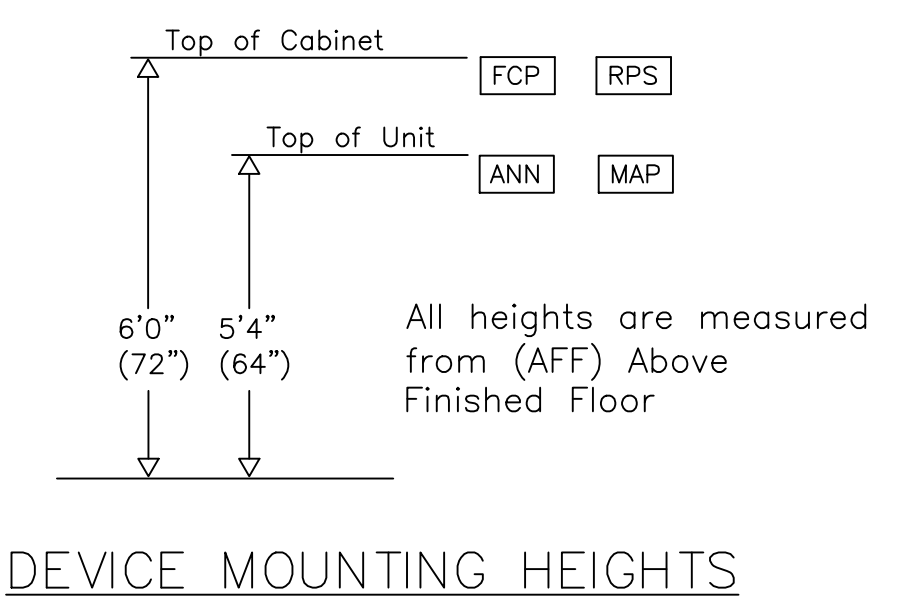
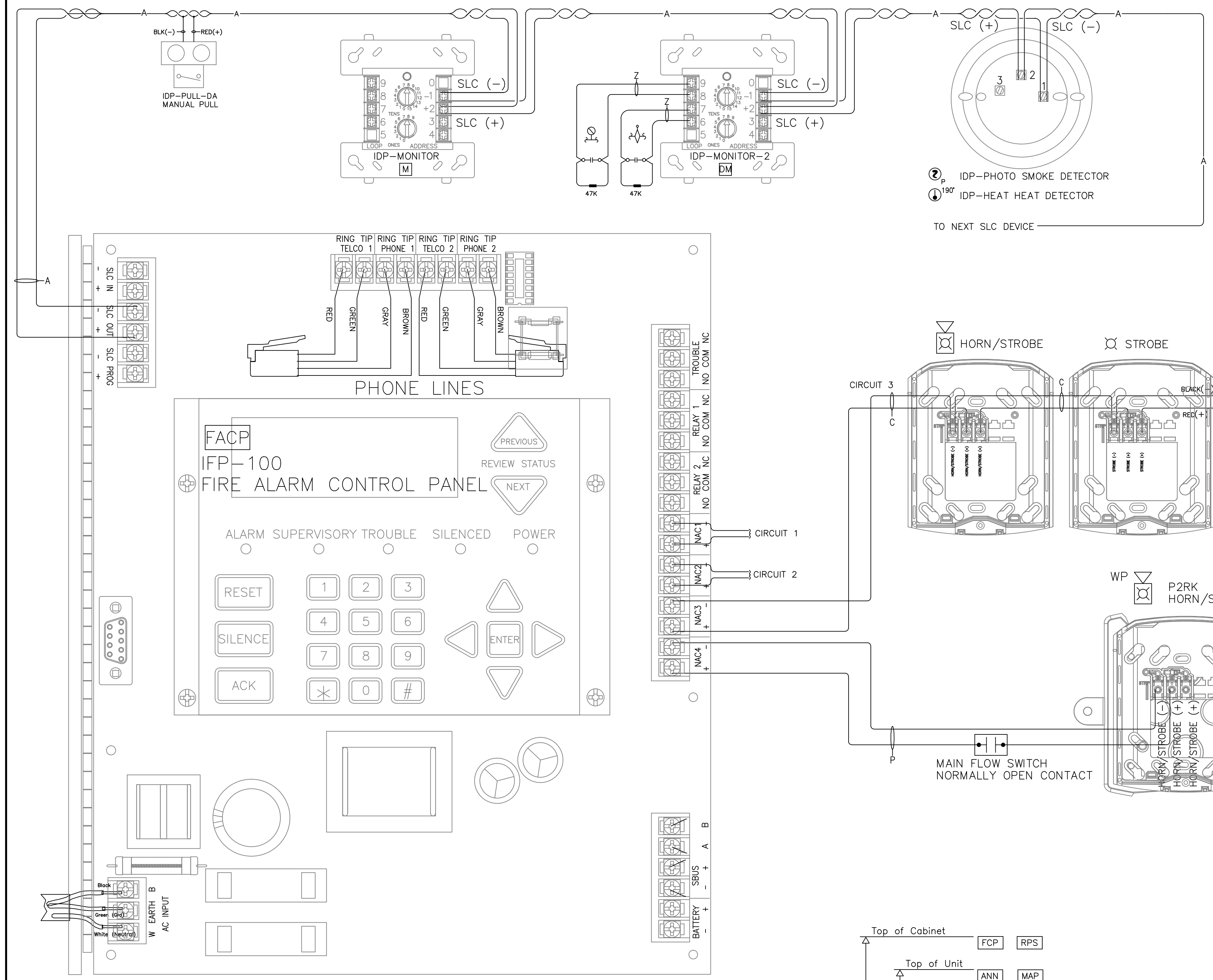
VILLAGE AT THE PEAKS
TENANT FINISH: RIPPLE EFFECT
 EXISTING FIRE ALARM SYSTEM
 1250 SOUTH HOVER STREET
 LONGMONT, COLORADO 80501

ENGINEER OF RECORD

KEY PLAN
 CAR JOB#
 1036
 DRAWN BY:
 J. THAO
 SCALE:
 1/8"=1'-0"

FIRE ALARM
 PLAN AND
 RISER

SHEET:
 FF01



Farenhyt

IFP-100/ECS Calculations
Version 08.07.13

Panel ID: IFP-100	Model: IFP-100/ECS Fire Alarm Control Panel	Max NAC Current: 3.0 Amps
Location: RISER ROOM 1002	Volts: 24 VDC	Max Panel Current: 6.0 Amps

Global Project Values:	Project Name: VATP-SHOPS F	Standby Hours: 24
Project ID:	Prepared By: J.LARA	Alarm Mins: 5
Date: 4/13/2015	Derating Factor: 1.2	Voltage Drop Warning Threshold %: 10

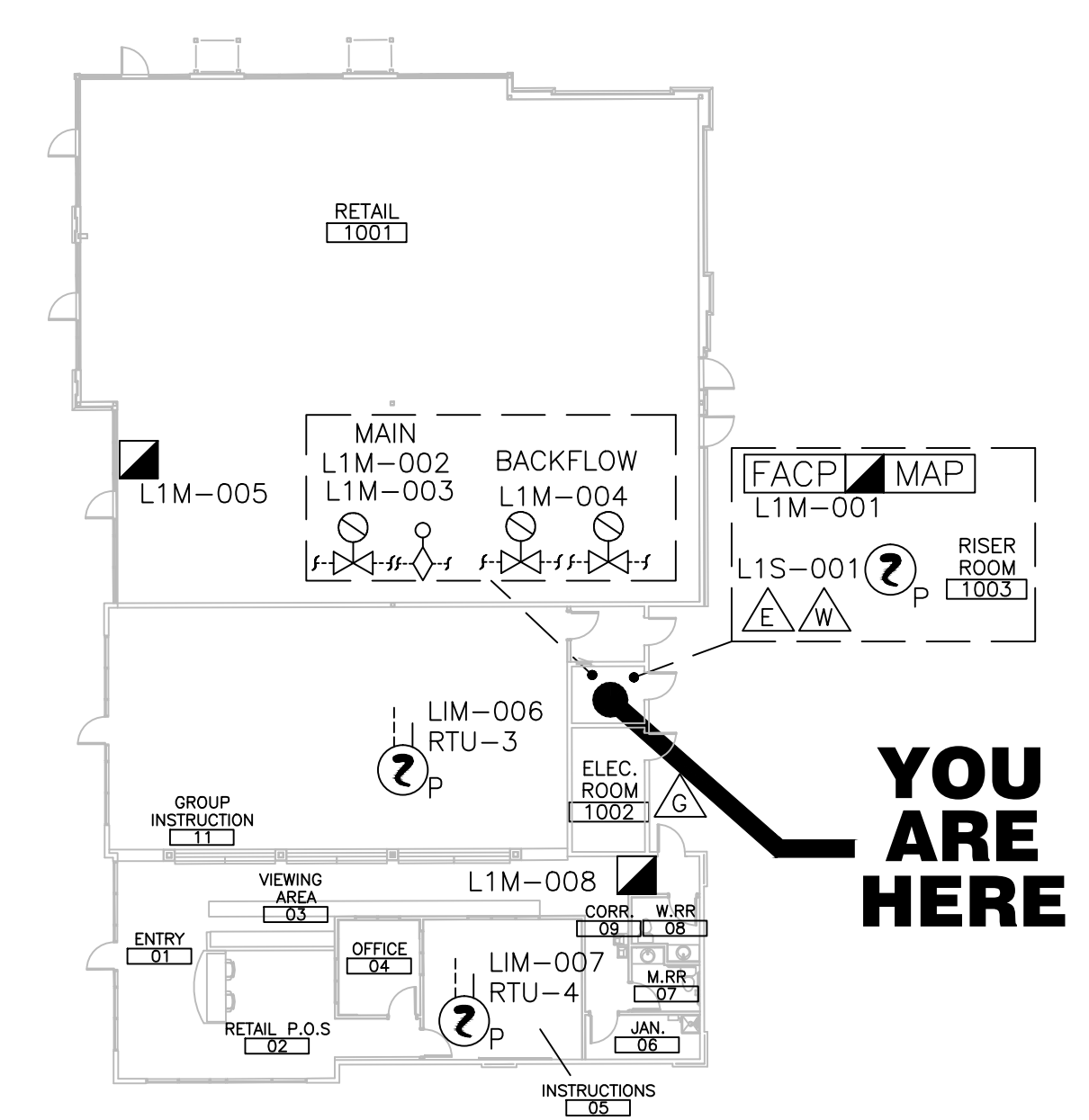
Part#	Description	Qty	Current Draw Standby	Current Draw Alarm	Wire AWG & Type	Chms Per 1000 Ft	Length(ft) One-Way	Actual Chms	Volts @ EOL	% Drop	
IFP-100	IFP-100 Fire Panel	1	0.170	0.365							
IDP	Photo, Photo-T, PhotoR	1	0.000	0.000							
IDP	Ion	1	0.000	0.000							
IDP	Heat, Heat-HT, ROR	1	0.000	0.000							
IDP	Beam, Beam-T	1	0.000	0.000							
DNR	Duct housing-1	2	0.000	0.000							
IDP	Accumulate	1	0.000	0.000							
IDP	FIRE-CO	1	0.000	0.000							
IDP	Control	1	0.000	0.000							
IDP	Control-6	1	0.000	0.000							
IDP	Monitor, Minimon	1	0.000	0.000							
IDP	Monitor-2	1	0.001	0.001							
IDP	Monitor-10	1	0.000	0.000							
IDP	Pull-SA, Pull-DA	2	0.001	0.001							
IDP	Relay	1	0.000	0.000							
IDP	Relay-5	1	0.000	0.000							
IDP	Relay-Mon-2	1	0.000	0.000							
IDP	Zone	1	0.000	0.000							
IDP	Zone-6	1	0.000	0.000							
IDP	Iso (Isolator Module)	1	0.000	0.000							
B224B	Isolator Base	1	0.000	0.000							
B220SR	Sounder Base	1	0.000	0.000							
B220S	Intelligent Sounder Base	1	0.000	0.000							
B224RB	Relay Base	1	0.000	0.000							
RTS151	Magnetic Remote Test	1	0.000	0.000							
RTS151KEY	Key Activated Test	1	0.000	0.000							
RA150Z	Remote LED	1	0.000	0.000							
RA-100	LCD Remote Annunc	1	0.000	0.000							
RA-100D	LCD Remote Annunc	1	0.000	0.000							
5824	Serial/Parallel Module	1	0.000	0.000							
5496	Power Expander	1	0.000	0.000							
RPS-1000	Power Expander	1	0.000	0.000							
5865-4	LED Annunciator (4G)	1	0.000	0.000							
5865-3	LED Annunciator (3G)	1	0.000	0.000							
5880	LED Driver Module	1	0.000	0.000							
5883	Relay Module	1	0.000	0.000							
ECS-SW24	Switch Expander	1	0.000	0.000							
ECS-VCM	Voice Command Module	1	0.000	0.000							
ECS-RVM	Remote Voice	1	0.000	0.000							
ECS-50W	50 Watt Amplifier	1	0.000	0.000							
ECS-125W	125 Watt Amplifier	1	0.000	0.000							
ECS-DUAL50W	50/100 Watt Amplifier	1	0.000	0.000							
ECS-50WBU	50 Watt Backup Amplifier	1	0.000	0.000							
NAC #1	Notification Appl Circuit	ctg	0.000	0.212	#14 Solid	3.19	0.00	20.40	0.00%		
NAC #2	Notification Appl Circuit	ctg	0.000	0.836	#14 Solid	3.19	0.00	20.40	0.00%		
NAC #3	Notification Appl Circuit	ctg	0.000	0.000	#14 Solid	3.19	0.00	20.40	0.00%		
NAC #4	Notification Appl Circuit	ctg	0.000	0.212	#14 Solid	3.19	0.00	20.40	0.00%		
Total Standby Current (Amps)			0.172	1.627	Total Alarm Current (Amps)						
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60 (5 Mins)						
Total Standby AH Required			4.132	0.136	Total Alarm AH Required						
Total Combined AH Required			4.27								
Multiply By The Derating Factor			1.20								
Minimum Battery AmpHours Required			5.12								
C&S Specialty Systems Will Furnish Two 7AH Batteries											

HORN/STROBE CIRCUIT VOLTAGE DROP CALCULATIONS															
MAX LOAD PER CKT 3AMP															
Circuit	Location	Power Source	Strobe		H/S		Strobe		H/S		Strobe		H/S		Voltage At Last Device
			Ceiling	Wall	Ceiling	Wall	Ceiling	Wall	Ceiling	Wall	Ceiling	Wall			
N0.1	SHOPS F	FACP	0.066	0.079	0.066	0.107	0.064	0.107	0.094	0.176	0.158	0.176	0.158	0.194	19.94
N0.2	RIPPLE EFFECT	FACP												19.37	
N0.3	SPARE	FACP												20.40	
N0.4	FDC OUTSIDE HORN/STROBE	FACP												20.33	
Totals			2	4	0	0	0	0	1	0	0	0	0	1.26	

Notes:
 Operating Voltage 16-33VDC Filtered 16-33VDC FWR
 Horn/strobe current draw @ 16VDC used for all calculations
 These calculations are based on 0.00307ohms per 1000' of 14AWG wire.
 Voltage Drop = (Circuit length x 2) x (amps x ohms/ft) - 20.4v

THE VILLAGE THE PEAKS SHOPS F

1250 SOUTH HOVER STREET
LONGMONT, COLORADO 80501



SEQUENCE OF OPERATIONS

LEGEND:

- [FACP] FIRE ALARM CONTROL PANEL
- [MAP] GRAPHIC MAP
- [S-T] SPRINKLER TAMPER SWITCH
- [S-FS] SPRINKLER FLOW SWITCH
- [S-M] SMOKE DETECTOR
- [S-D] DUCT DETECTOR
- [M-P] MANUAL PULL STATION
- [F-D] FIRE DEPARTMENT CONNECTION
- [G-S] GAS SHUTOFF
- [E-S] ELECTRICAL SHUTOFF
- [W-S] WATER SHUTOFF

DEVICES:

- MANUAL PULL STATION
- SMOKE DETECTORS
- WATER FLOW SWITCH
- DUCT DETECTOR MONITORING
- SPRINKLER CONTROL VALVE
- FACP AC POWER FAILURE
- FACP LOW BATTERY
- OPEN CIRCUIT
- GROUND FAULT
- NOTIFICATION APPLIANCE CIRCUIT SHORT
- ALARM SIGNAL SILENCE

YOU ARE HERE

C&S SPECIALTY SYSTEMS
3609 W. 6TH AVENUE, UNIT B
 LAKEWOOD, COLORADO 80214
 (P) 303-670-7395 (F) 303-670-6829

REVISIONS

REV	DATE	SUBMITTAL	COMMENTS
1	11/16/15	AS-BUILTS	
2	3-14-16	AS-BUILTS	

VILLAGE AT THE PEAKS
TENANT FINISH: RIPPLE EFFECT
 EXISTING FIRE ALARM SYSTEM
 1250 SOUTH HOVER STREET
 LONGMONT, COLORADO 80501

KEY PLAN
N.T.S.

C&S JOB# 1036

DRAWN BY: J. THAO

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

FACP & DEVICE DETAILS AND GRAPHIC MAP

SUBJECT: FP01