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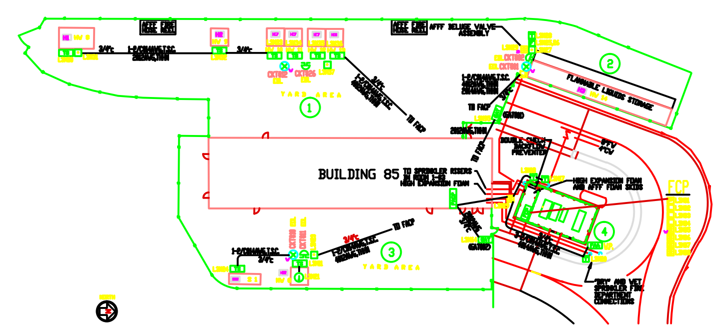
MATRIX SEQUENCE OF OPERATION

SEQUENCE OF OPERATIONS

INDICATING / INITIATING	AUDIO & VISUAL INDICATION AT FIRE ALARM CONTROL PANEL	NOTIFY FIRE DEPARTMENT (ALARM)	NOTIFY FIRE DEPARTMENT (TROUBLE)	SHUT DOWN AIR HANDLING UNITS	OPEN SITE GATES	ACTIVATE HEF AIR INTAKE AND RELIEF VENTS/DAMPERS (ONLY FOR SPECIFIED ZONE)	RELEASE ROLL UP DOORS (ONLY FOR SPEC. ZONE)	ACTIVATE BELL AND WHITE STROBE OUT BLDG ALARM & YARD AREA	ACTIVATE BELL AND WHITE STROBE (BLDG 85/14)	INITIATE AFFF DISCHARGE (BLDG 85/14)	ACTIVATE RED STROBE INSIDE HEF AREA	INITIATE TIME DELAY HEF DISCHARGE	ACTIVATE BELL AND WHITE STROBE (BLDG 85)
MANUAL STATION (BLDG 85)	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES
FOAM RELEASE MANUAL STATION	YES	YES	NO	NO	YES	YES	YES	NO	NO	NO	YES	NO	YES
HEAT DETECTOR SPECIFIED HEF AREA	YES	YES	NO	NO	YES	YES	YES	NO	NO	NO	YES	YES	YES
PHOTOELECTRIC SMOKE DETECTOR	YES	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES
DUCT SMOKE DETECTOR	YES	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES
FLOW SWITCH (BLDG 85)	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES
SPRINKLER TAMPER SWITCH	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
FOAM RELEASE MANUAL STATION (BLDG 85/14)	YES	YES	NO	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO
HEAT DETECTOR (BLDG 85/14)	YES	YES	NO	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO
GLOVE BOX HEAT DETECTOR	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES
MANUAL STATION OUT BLDG ALARM & YARD	YES	YES	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO
HEAT DETECTOR NON-HEF AREA	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
HEF CONCENTRATION LEVEL	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
AC POWER FAILURE	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SYSTEM FAULT	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

SITE PLAN



LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL - INTELLIGENT AM-2020 NOTIFIER CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET (CAB-B3)
FAA	FIRE ALARM ANNUNCIATOR PANEL - (LCD-80)
FG	FOAM GENERATOR (CMX-2) (HEF001 HEF006)
FV	FOAM VENT\DAMPER (CMX-2) (VEN001 VEN006)
GAT	GATE OPERATION\OPENER (CMX-2) (GAT001, GAT002)
TS	TROUBLE SUPERVISORY & ALARM CONTACTS (MMX-101)
ADA	AIR DAMPER ACTUATOR (CMX-2)
PSU	POWER SUPPLY UNIT
FCP	FOAM CONCENTRATE PUMP TERMINAL CABINET
P	PHOTOELECTRIC SMOKE DETECTOR (SDX-551)
D	DUCT DETECTOR (PHOTOELECTRIC SMOKE DETECTOR) - (DHX-501 - SDX-551)
	HEAT DETECTOR EXPLOSION PROOF (135°) (MMX-101)
	HEAT DETECTOR (135°) (FDX-551)
	HEAT DETECTOR (194°) - EXPLOSION PROOF (MMX-101)
	HEAT DETECTOR EXPLOSION PROOF (135°) IN GLOVE BOX (MMX-101)
	ALARM BELL EXPLOSION PROOF (CMX-2)
	ALARM BELL/STROBE (CMX-2)
	ALARM STROBE (WHITE) EXPLOSION PROOF (CMX-2)
	ALARM STROBE (RED) EXPLOSION PROOF (CMX-2) (VEN001 - VEN006)
	ALARM STROBE (RED) (CMX-2)
	START/STOP SWITCH (FOAM RELEASE) - EXPLOSION PROOF (2 MMX-101)
	START/STOP SWITCH (FOAM RELEASE) (2 MMX-101)
	MANUAL PULL STATION (FIRE ALARM) - EXPLOSION PROOF (MMX-101)
	MANUAL PULL STATION (FIRE ALARM) (MMX-101)
	WATER FLOW SWITCH(BY OTHERS) - (MMX-101)
	TAMPER SWITCH (BY OTHERS) - (MMX-101)
	SOLENOID - AT DELUGE RISER (BY OTHERS) - (CMX-2)
	SOLENOID - WATER FOAM COCENTRATE PUMP (BY OTHERS) - (CMX-2)
	SOLENOID - AT FOAM COCENTRATE PUMP (CMX-2)
	SOLENOID - AT FOAM GERATOR - HEF UNIT (CMX-2)
	RISER - AFFF (BY OTHERS)
	ROLL-UP DOOR (CMX-2) - EXPLOSION PROOF
	ROLL-UP DOOR (CMX-2)
	KEYED MAINTENANCE SWITCH (MMX-101) - FOR DUCT DETECTORS
	HEF CONCENTRATION LEVEL - FOAM LIQUID LEVEL INDICATION (3 MMX-101)
	PRESSURE SWITCH - AT FOAM TANK (MMX-101)
	ISOLATOR MODULE (ISO-X) - IN EXPLOSION PROOF J-BOX
	ISOLATOR MODULE (ISO-X)
MMX	MONITOR MODULE (MMX-101)
CMX	CONTROL MODULE (CMX-2)
ISO	ISOLATOR MODULE (ISO-X)
JB	JUNCTION BOX - J-CAN
EOL	END-OF-LINE RESISTOR
T.S.C.	TWISTED SHIELED CABLE
E.P.	EXPLOSION PROOF
W.P.	WEATHER PROOF
XX	ITEM NO.# IDENTIFICATION
L1D00	LIB-200 BOARD #1 ADDRESS NO.# - FOR ADDRESSABLE DEVICES (1-99 POINTS)
L1M00	LIB-200 BOARD #1 ADDRESS NO.# - FOR ADDRESSABLE MODULES (1-99 POINTS)
L2D00	LIB-200 BOARD #2 ADDRESS NO.# - FOR ADDRESSABLE DEVICES (1-99 POINTS)
L2M00	LIB-200 BOARD #2 ADDRESS NO.# - FOR ADDRESSABLE MODULES (1-99 POINTS)
L3D00	LIB-200 BOARD #3 ADDRESS NO.# - FOR ADDRESSABLE DEVICES (1-99 POINTS)
L3M00	LIB-200 BOARD #3 ADDRESS NO.# - FOR ADDRESSABLE MODULES (1-99 POINTS)
W	WHITE STROBE
R	RED STROBE
CKT	CIRCUIT

SYMBOL	DESCRIPTION
EOLR	END-OF-LINE RELAY
	ALARM & TROUBLE RELAY CABINET - BY OTHERS
	42 CIRCUIT BREAKER PANEL
	60A, BREAKER #5, 120VAC POWER SOURCE

BILL OF MATERIALS

QTY	NO#	PART NO.	DESCRIPTION	DIST.	MANUF.	C.S.F.M.
	70					
	69					
	68					
	67					
6	66	----------	ROLL-UP DOOR RELEASE	(BY OTHERS)		
6	65	----------	ROLL-UP DOOR RELEASE(E.P.)	(BY OTHERS)		
17	64	----------	SOLENOID FOAM GENERATOR	(BY OTHERS)		
17	63	----------	AIR DAMPER\ACTUATOR	(BY OTHERS)		
17	62	----------	FOAM VENT\DAMPER	(BY OTHERS)		
2	61	----------	GATE OPERATOR\OPENER	(BY OTHERS)		
2	60	----------	FOAM CONCENTRATE PUMP	(BY OTHERS)		
17	59	----------	FOAM GENERATOR	(BY OTHERS)		
8	58	----------	TBL SUPV & ALM SIGNAL	(BY OTHERS)		
	57					
	56					
1	55	----------	120VAC TO PANEL	(BY OTHERS)		
6	54	----------	DAMPERS CLOSE	(BY OTHERS)		
6	53	----------	HVAC SHUT DOWNS	(BY OTHERS)		
	52					
---	51	----------	LOW AIR SWITCH	(BY OTHERS)		
7	50	----------	TAMPER SWITCH	(BY OTHERS)		
3	49	----------	WATER FLOW	(BY OTHERS)		
1	48	----------	SOLENOID (AT FOAM VALVE)	(BY OTHERS)		
12	47	----------	START/STOP SWITCH	(BY OTHERS)		
4	46	MK-316	TBL\ALM SIGNALING PANEL	(BY OTHERS)	(L.B.L.)	
	45					
	44					
	43					
*	42	A77-716-02	END-OF-LINE RELAY	NOTIFIER	SYSTEM SENSOR	[illegible]
1	41	APWK53F	WINDOW KIT	HOFFMAN	HOFFMAN	
1	40	A1210CHNF	NEMA 4 ENCLOSURE W.P.	HOFFMAN	HOFFMAN	
*	39	GUB-3	CAST JUNCTION BOX E.P. 3/4"	APPLETON	BY ELECT. CONTR.	
2	38	MMX-2	MONITOR MODULE	NOTIFIER	NOTIFIER	[illegible]
*	37	GUB-1	CAST JUNCTION BOX E.P. 3/4"	APPLETON	BY ELECT. CONTR.	
*	36	GRK-2SC	CAST JUNCTION BOX- COVER	APPLETON	BY ELECT. CONTR.	
7	35	MR-101\C	24VDC RELAY	NOTIFIER	NOTIFIER	[illegible]
*	34	EFDC175-Q	3/4" SINGLE GANG E.P.	APPLETON	BY ELECT. CONTR.	
6	33	302-EPM-194	HEAT DETECTOR E.P.(194°)	NOTIFIER	THERMOTEC	[illegible]
18	32	MR-199-13/C	HEAVY DUTY RELAY	NOTIFIER		[illegible]
	31					
7	30	AV-32-24-R	STROBE - RED	SPACE AGE	SPACE AGE	[illegible]
10	29	FSEX-24-R	STROBE-RED (E.P.)	FEDERAL SIG.	FEDERAL SIG.	
10	28	FSEX-24-W	STROBE-WHITE (E.P.)	FEDERAL SIG.	FEDERAL SIG.	
11	27	MT-24-LSM-VFR	BELL/STROBE (ADA)	WHEELOCK	WHEELOCK	[illegible]
9	26	435EX-6G1	BELL - EXPLOSION PROOF	EDWARDS	EDWARDS	
7	25	XAL-53	MANUAL PULL STATION (EP)	KILLARK	KILLARK	
5	24	BGX-101L	MANUAL PULL STATION	NOTIFIER	NOTIFIER	[illegible]
19	23	302-EPM-135	HEAT DETECTOR E.P.(135°)	NOTIFIER	THERMOTEC	[illegible]
11	22	FDX-551	HEAT DETECTOR (135°)	NOTIFIER	NOTIFIER	[illegible]
6	21	DHX-501	DUCT DETECTOR HOUSING	NOTIFIER	NOTIFIER	[illegible]
38	20	SDX-551	PHOTO SMOKE DETECTOR	NOTIFIER	NOTIFIER	[illegible]
6	19	H-SERIES	KEYED MAINTENANCE SWITCH	T.S.I.	C & K	
43	18	BX-501	SMOKE DETECTOR BASE	NOTIFIER	NOTIFIER	[illegible]
10	17	ISO-X	ISOLATOR MODULE	NOTIFIER	NOTIFIER	[illegible]
71	16	CMX-2	CONTROL MODULE	NOTIFIER	NOTIFIER	[illegible]
102	15	MMX-101	MINI MONITOR MODULE	NOTIFIER	NOTIFIER	[illegible]
16	14	ACM-8R	ANNUNCIATION CONTROL MODULE	NOTIFIER	NOTIFIER	[illegible]
3	13	LCD-80	FIRE ALARM ANNUNCIATOR	NOTIFIER	NOTIFIER	[illegible]
2	12	CAB-B3	CONTROL CABINET ENCLOSURE	NOTIFIER	NOTIFIER	
2	11	PS12600	BATTERIES 60 AH, 12V	POWER SONIC	POWER SONIC	
1	10	MPS-24A	POWER SUPPLY	NOTIFIER	NOTIFIER	[illegible]
1	09	ASF-30-24V-40L	POWER SUPPLY UNIT (30AMP)	LA MARCHE	LA MARCHE	
3	08	LIB-200	LOOP INTERFACE BOARD	NOTIFIER	NOTIFIER	[illegible]
1	07	SIB-2048	SERIAL INTERFACE BOARD	NOTIFIER	NOTIFIER	[illegible]
1	06	CHS-4	CHASSY BRACKET	NOTIFIER	NOTIFIER	[illegible]
2	05	ICA-4	INNERCONNECT ASSEMBLY	NOTIFIER	NOTIFIER	[illegible]
1	04	BP-1	BATTERY DRESS PANEL	NOTIFIER	NOTIFIER	[illegible]
1	03	DIA-2	DISPLAY INTERFACE ASSY	NOTIFIER	NOTIFIER	[illegible]
1	02	CPU-2020	CENTRAL PROCESSING UNIT	NOTIFIER	NOTIFIER	[illegible]
1	01	AM-2020	CONTROL PANEL	NOTIFIER	NOTIFIER	[illegible]

QUANTITY | ITEM NO.

TRI-SIGNAL,INC

UNIVERSITY OF CALIFORNIA, BERKELEY
LAWRENCE BERKELEY LABORATORY, BLDG#85
HAZARDOUS WASTE HANDLING FACILITY
BERKELEY, CA

ITEMS,LEGEND,MATRIX & SITE PLAN

BUILDING FIRE ALARM DETECTION &
AFFF FIRE SUPPRESSION SYSTEM

T. NELSON — TN — 01-09-95
W. CORCIO

94-171-001 — 4N85E038E

NONE — 1 OF 16

REVISIONS