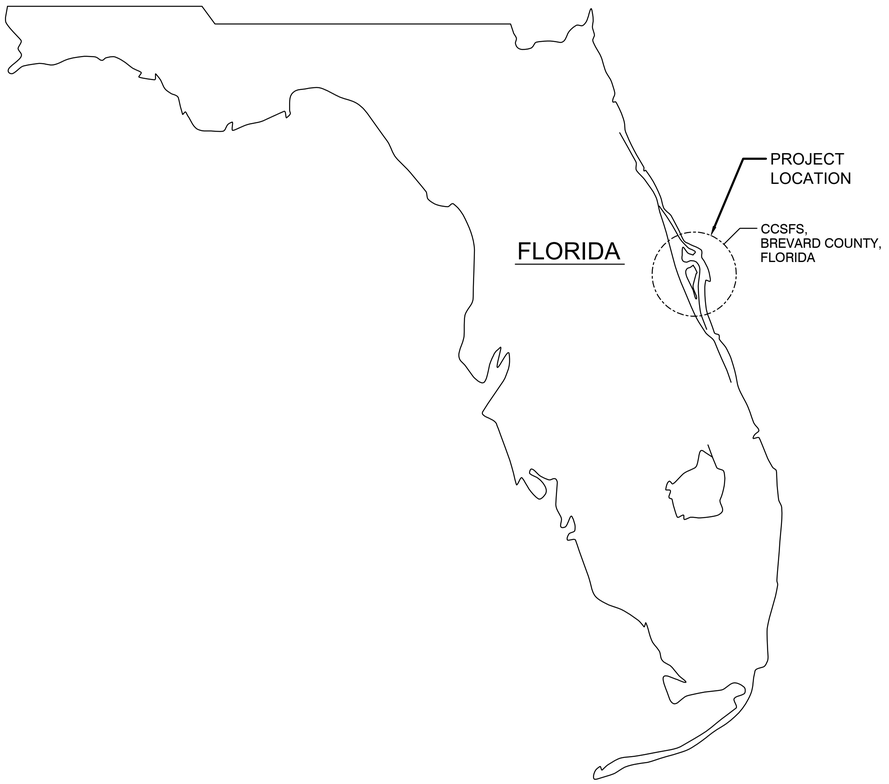
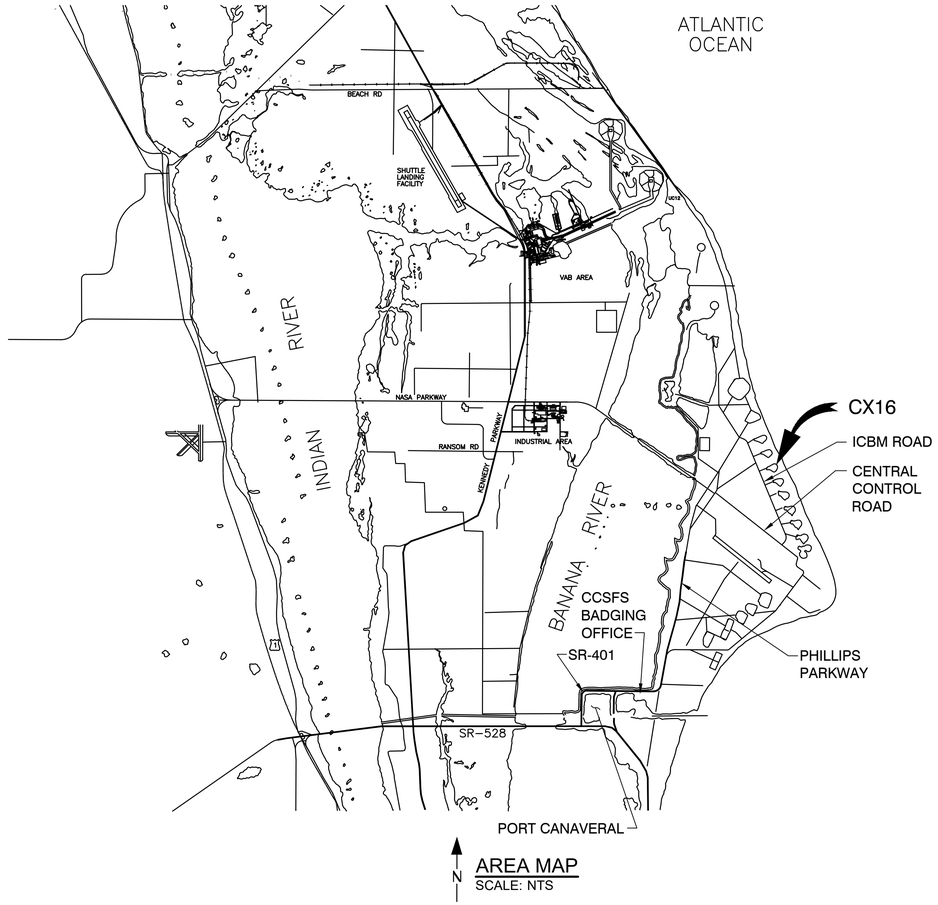
Relativity

CX16 FIRE ALARM AND LEAK DETECTION SYSTEM





AREA MAP
SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: KAH, SD
DWN BY: MAS
CHKD BY: CDW
SUBMITTED BY: CDW
FILE NAME: REL1-G-001.DWG
DATE: 3/14/2020
DWG NUMBER: RS-D001-2020
SIZE: D 22"x34"
SHEET: 1 OF 12
PLOT DATE: 8/14/2020

RS&H
115 ALMA BLVD, SUITE 101
MERRITT ISLAND, FL 32953
321-453-0212 www.rsandh.com

Relativity
8701 Aviation Blvd,
Inglewood, CA 90301

CX16 FIRE ALARM AND LEAK DETECTION

COVER SHEET

PLATE REFERENCE NUMBER
G-001

MONITORING SYSTEM SYMBOLS

- LEL — LOWER EXPLOSIVE LIMIT GAS SPOT SENSOR - DIRECT CONNECT
- O2 — OXYGEN SPOT SENSOR - DIRECT CONNECT
- LEL — LOWER EXPLOSIVE LIMITY GAS SPOT SENSOR - STAND ALONE TRANSMITTER
- O2 — O2 SPOT SENSOR - STAND ALONE TRANSMITTER
- THERMAL IMAGING CAMERA
- GDC — GAS DETECTION CONTROLLER
- QR — OPEN PATH FLAMMABLE VAPOR DECTECTOR - SAF EYE QUASAR 900 RECEIVER
- QT — OPEN PATH FLAMMABLE VAPOR DECTECTOR - SAF EYE QUASAR 900 TRANSMITTER
- OMC - XX — OXYGEN MONITORING CONTROLLER - 'XX' DENOTES UNIQUE IDENTIFIER
- BUZZER
- X / Y — FLASHING LED - 'X' DENOTES SYSTEM, 'Y' DENOTES COLOR

NOTES

A. REFERENCE THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 497, RECOMMENDED PRACTICE FOR THE CLASSIFICATION OF FLAMMABLE LIQUIDS, GASES, OR VAPORS AND OF HAZARDOUS (CLASSIFIED) LOCATIONS FOR ELECTRICAL INSTALLATION IN CHEMICAL PROCESS AREAS, AND NFPA 70, THE NATIONAL ELECTRICAL CODE (NEC), FOR THE PURPOSES OF DETERMINING THE EXTENT OF THE CLASSIFIED AREA.

B. PURSUANT TO NFPA 70 REQUIREMENTS REFERENCED IN VOLUME 5, OF THE AIR FORCE SPACE COMMAND MANUAL (AFSPCMAN TAILORED 91-710), THIS DRAWING DOCUMENTS HAZARDOUS AREA CLASSIFICATIONS THROUGHOUT THE SITE. GENERAL GUIDELINES FOR DETERMINING THE EXTENT OF HAZARDOUS AREA ZONES ARE LISTED BELOW. BOUNDARIES FOR EACH CLASSIFIED AREA ARE SHOWN ON THE DRAWING SHEETS.

C. WHERE OVERLAP OF DIFFERING CLASSIFICATIONS OCCURS, THE MOST STRINGENT CLASSIFICATION TAKES PRECEDENCE (E.G. DIVISION 1 TAKES PRECEDENCE OVER DIVISION 2). THEREFORE ALL PLAN AND ELEVATION VIEWS MUST BE CONSIDERED IN 3D TO UNDERSTAND WHAT IS DEPICTED ORTHOGRAPHICALLY.

D. REFER TO THE HAZARDOUS SUBSTANCES, DESCRIBED IN AFSPCMAN TAILORED 91-710 AND NEC-ARTICLE 500.

E. AREAS CLASSIFIED CLASS I, DIVISION 1 ARE AS FOLLOWS:
   a. LOCATIONS IN WHICH FLAMMABLE LIQUIDS, VAPORS OR GASES MAY BE PRESENT IN AIR DURING NORMAL OPERATIONS.
   b. LOCATIONS IN WHICH THERE IS A CREDIBLE RISK THAT IGNITABLE CONCENTRATIONS OF VAPORS OR GASES MAY BE PRESENT IN AIR DURING ABNORMAL OPERATIONS DUE TO A FAILURE, LEAKAGE, OR MAINTENANCE/ REPAIR.
   c. LOCATIONS IN WHICH THE BREAKDOWN OR FAULTY OPERATION OF EQUIPMENT OR PROCESSES MIGHT RELEASE IGNITABLE CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS AND MIGHT ALSO CAUSE SIMULTANEOUS FAILURE OF ELECTRICAL EQUIPMENT.
   d. WITHIN 25 FT. OF ANY VENT OPENING UNLESS THE DISCHARGE IS NORMALLY INCINERATED OR SCRUBBED TO NON-FLAMMABLE CONDITIONS [LESS THAN 25 PERCENT OF LOWER EXPLOSIVE LIMIT]. THIS DISTANCE MAY BE INCREASED IF THE VENT FLOW RATE CREATES A FLAMMABILITY CONCERN AT A DISTANCE GREATER THAN 25 FT.
   e. BELOW GRADE LOCATIONS IN A CLASS I, DIVISION 2 AREA.
   f. ANY SUMP OR TRENCH BELOW GRADE WITHIN 25 FT .OF HAZARDOUS AREAS OR NON-WELDED TRANSFER LINES CONTAINING HAZARDOUS FLAMMABLE LIQUIDS. THE ENTIRE TRENCH EXITING THE 25 FT. CLEAR ZONE WILL BE RATED.
   g. CONTINUOUSLY WELDED PIPE FOR NON HYDROGEN COMMODITIES DO NOT GENERATE A HAZARDOUS LOCATION.
   h. WITHIN AN AREA EXTENDING 5FT IN ALL DIRECTIONS FROM THE POINT WHERE CONNECTIONS ARE REGULARLY MADE ON STORAGE CONTAINERS OR TRANSFER LINES CONTAINING CRYOGENIC FUELS.

A
F. AREAS CLASSIFIED CLASS I, DIVISION 2 ARE AS FOLLOWS:
   a. LOCATIONS WHERE VOLATILE FLAMMABLE LIQUIDS OR FLAMMABLE GASES ARE HANDLED, PROCESSED OR USED, BUT WILL NORMALLY BE CONFINED WITHIN CLOSED CONTAINERS OR CLOSED SYSTEMS FROM WHICH THEY CAN ESCAPE ONLY IN CASE OF ACCIDENTAL RUPTURE OR BREAKDOWN OF SUCH CONTAINERS OR SYSTEMS OR IN CASE OF ABNORMAL OPERATION OF EQUIPMENT.
   b. STORAGE VESSELS (INCLUDING CARTS AND DRUMS): USE NFPA 497, RECOMMENDED PRACTICE FOR CLASSIFICATION OF FLAMMABLE LIQUIDS, GASES, OR VAPORS AND OF HAZARDOUS (CLASSIFIED) LOCATIONS FOR ELECTRICAL INSTALLATIONS IN CHEMICAL PROCESS AREAS (AFSPCMAN TAILORED 91-710, 5.1.5.1.4.2.1).
   c. TRANSFER LINES: FOR COMMODITIES USE NFPA 497 (AFSPCMAN TAILORED 91-710, 5.1.5.1.4.2.2).
   d. AREAS WITH FUELS PRESENT IN EXPECTED OXYGEN RICH ATMOSPHERES (INCLUDING LAUNCH VEHICLE WITH TRANSPORT ERECTOR ON PAD): FOR HYDROGEN, 100 FOOT RADIUS HORIZONTALLY FROM AND 100 FEET VERTICALLY (25 FEET FOR OTHER THAN HYDROGREN) ABOVE THE HIGHEST LEAK OR VENT SOURCE AND BELOW THE SOURCE TO GRADE. (AFSPCMAN TAILORED 91-710, 5.1.5.1.4.2.3).
   e. ENCLOSED LOCATIONS SUCH AS ROOMS, WORK BAYS, AND LAUNCH COMPLEX CLEAN ROOMS THAT ARE USED TO STORE AND HANDLE FLAMMABLE AND COMBUSTIBLE PROPELLANTS WHEN THE CONCENTRATION OF VAPORS INSIDE THE ROOM RESULTING FROM A RELEASE OF ALL FLUIDS STORED AND HANDLED EQUALS OR EXCEEDS THE LOWER EXPLOSIVE LIMIT (LEL).
   f. LOCATIONS ADJACENT TO A CLASS I, DIVISION 1 LOCATION INTO WHICH IGNITABLE CONCENTRATIONS OF GASES OR VAPORS MIGHT OCCASIONALLY BE COMMUNICATED, UNLESS COMMUNICATION IS PREVENTED BY ADEQUATE POSITIVE PRESSURE VENTILATION FROM A SOURCE OF CLEAN AIR AND EFFECTIVE SAFEGUARDS AGAINST VENTILATION FAILURE ARE PROVIDED.

G. ALL ELECTRICALLY ENERGIZED EQUIPMENT USED IN HAZARDOUS AREAS, WHETHER FIXED OR PORTABLE/TEMPORARY, SHALL BE COMPLIANT WITH THE REQUIREMENTS LISTED IN AFSPCMAN TAILORED 91-710, NFPA 70 (NEC), AND OSHA 1910 FOR THE MOST STRINGENT HAZARD CLASSIFICATION AREA IN WHICH IT SHALL BE USED.

LEGEND

- CLASS 1, DIVISION 1, GROUPS B, C, OR D OR ANYCOMBINATION AS DELINEATED IN DRAWING
- CLASS I, DIVISION 2, GROUP D
- CLASS I, DIVISION 2, GROUP B
- CLASS I, DIVISION 2, GROUP B, AND D (A)

DRAWING INDEX		
SHEET NUMBER	PLATE NUMBER	SHEET TITLE
1	G-001	COVER SHEET
2	EY-001	ELECTRICAL SUBSYSTEMS GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS
3	EY-100	ELECTRICAL SUBSYSTEMS SITE PLAN
4	EY-401	ENLARGED PLAN - LOX STORAGE AREA
5	EY-402	ENLARGED PLAN - PAD
6	EY-403	ENLARGED PLAN - LNG STORAGE AREA
7	EY-404	ENLARGED PLAN - HANGAR
8	EY-501	ELECTRICAL SUBSYSTEMS DETAILS - 1
9	EY-502	ELECTRICAL SUBSYSTEMS DETAILS - 2
10	EY-503	ELECTRICAL SUBSYSTEMS DETAILS - 3
11	EY-504	ELECTRICAL SUBSYSTEMS DETAILS - 4
12	EY-601	ELECTRICAL SUBSYSTEMS DIAGRAMS - HANGAR
13	EY-602	ELECTRICAL SUBSYSTEMS DIAGRAMS - ECS AND LNG
14	EY-603	ELECTRICAL SUBSYSTEMS DIAGRAMS - PAD FIRST FLOOR
15	EY-604	ELECTRICAL SUBSYSTEMS DIAGRAMS - PAD SECOND FLOOR
16	EY-605	ELECTRICAL SUBSYSTEMS SCHEDULES
17	FA-001	FIRE ALARM GENEREAL NOTES, SYMBOLS, AND ABBREVIATIONS
18	FA-100	FIRE ALARM OVERALL SITE PLAN
19	FA-401	FIRE ALARM ENLARGED PLAN - LOX STORAGE AREA
20	FA-402	FIRE ALARM ENLARGED PLAN - PAD
21	FA-403	FIRE ALARM ENLARGED PLAN - LNG STORAGE AREA
22	FA-404	FIRE ALARM ENLARGED PLAN - HANGAR
23	S-001	GENERAL STRUCTURAL NOTES AND DETAILS

EQUIPMENT LIST			
DESCRIPTION	QNTY	PART NUMBER	MANUFACTURER
DIRECT CONNECT OXYGEN SENSOR W/JUNCTION BOX	15	65-2515RK	RKI INSTRUMENTS
DIRECT CONNECT LEL SENSOR W/JUNCTION BOX	13	61-1000RK-05	RKI INSTRUMENTS
STAND ALONE M2A TRANSMITTER (OXYGEN)	2	65-2643RK-05	RKI INSTRUMENTS
STAND ALONE M2A TRANSMITTER (COMBUSTIBLE GAS)	1	65-2640RK	RKI INSTRUMENTS
FIXED GAS DECTECTOR EIGHT CHANNEL CONTROLLER	2	BEACON 800	RKI INSTRUMENTS
FIXED GAS DECTECTOR FOUR CHANNEL CONTROLLER	4	BEACON 410	RKI INSTRUMENTS
BACKUP BATTERY	6	49-80104RK	RKI INSTRUMENTS
BLUE FLASHING LED	14	105XBRMB120A	EDWARD SIGNAL
RED FLASHING LED	8	105XBRMR120A	EDWARD SIGNAL
FLASHING LIGHT MOUNTING BRACKET	21	105BM	EDWARD SIGNAL
FLASHING LIGHT PIPE MOUNT	1	105PM	EDWARD SIGNAL
FLASHING LIGHT JUNCTION BOX	22	105BX	EDWARD SIGNAL
BUZZER	15	878EX-N5	EDWARD SIGNAL
QUASAR 900 OPEN PATH GAS DETECTOR (RECIEVER)	2	903-F-2-G-1_QR-F-112	SPECTREX
QUASAR 900 OPEN PATH GAS DETECTOR (TRANSMITTER)	2	903-F-2-G-1_QT-F-312	SPECTREX
THERMAL IMAGING CAMERA	2	EC-840S-TIC-09I-HR2-F55-B	STAHL
CAMERA MOUNTING BRACKET	2	251387	STAHL
NEMA 4X SS ENCLOSURE 24X24X12	3	A24H2412SS6LP3PT	HOFFMAN
SS BACK PANEL 24X24	3	A24P23SS6	HOFFMAN
NEMA 4X SS WINDOW KIT	3	APWK95NFSS	HOFFMAN
GN2 PURGE UNIT W/VENT ACCESSORIES	3	A3003YZVM	HOFFMAN
RESET PUSHBUTTON	3	9001KR1BH5	SQUARE D
PUSHBUTTON LEGEND	3	KN723BP	SQUARE D
RELAY	0	8501RSD42P14	SQUARE D
RELAY SOCKET	0	8501NR42	SQUARE D
NEMA 4X SS JUNCTION BOX	2	A12106CHNFSS6	HOFFMAN
SS BACK PANEL 12X10	2	A12P10SS	HOFFMAN

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

REV	SYMBOL	DESCRIPTION	DATE	BY
A		HAZARDOUS PLAN UPDATES	02/25/2021	MAS

DESIGNED BY: MAS | DATE: 10/07/2020
DWN BY: MAS | CKD BY: KLH
SUBMITTED BY: CDW
FILE NAME: 22"X34" | DWG NUMBER: 22"X34"
SIZE: D 22"X34" | SHEET: OF | PLOT DATE: 22"X34"

RS&H
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MERRITT ISLAND, FL 32953
321-453-0212 www.rsandh.com

Relativity
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FIRE AND LEAK DETECTION
ELECTRICAL SUBSYSTEMS
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

PLATE REFERENCE NUMBER
EY001

SHEET LEGEND

- CLASS 1, DIVISION 1, GROUPS B,C C, OR D OR ANYCOMBINATION AS DELINEATED IN DRAWING
- CLASS I, DIVISION 2, GROUP D
- CLASS I, DIVISION 2, GROUP B, AND D
- CLASS I, DIVISION 2, GROUP B

A

1 OVERALL SITE PLAN
SCALE: 1" = 60'-0"

100 0 100 200
SCALE: 1" = 100'

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL
MAS	02/25/2021	HAZARDOUS PLAN UPDATES	REV A

DESIGNED BY: MAS
DRN BY: MAS
SUBMITTED BY: CW
FILE NAME: 22"X34"
SIZE: D 22"X34"
DATE: 10/9/2020
CKD BY: KLH
DWG NUMBER: 22"X34"
PLOT DATE: 22"X34"
SHEET: OF

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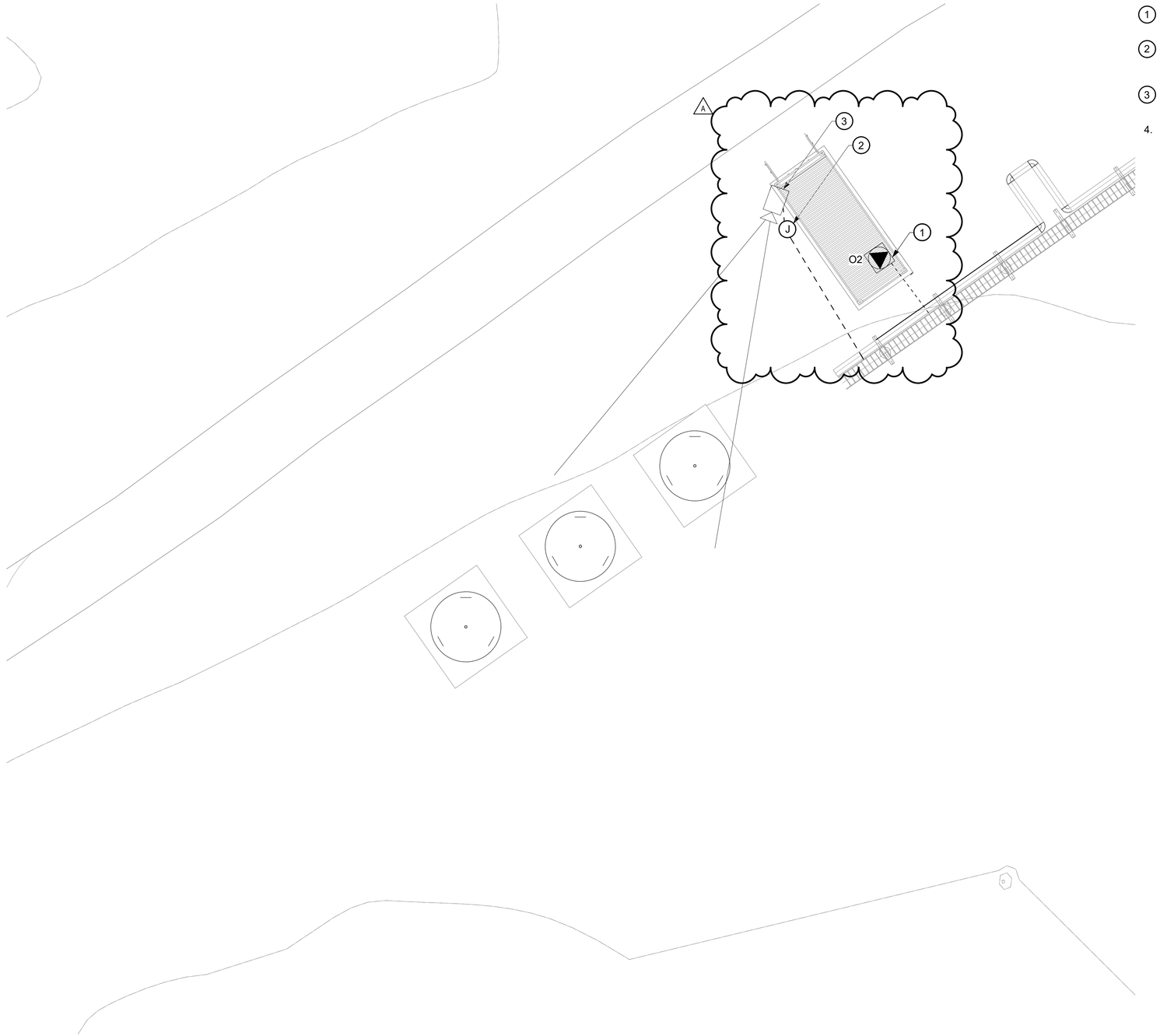
FIRE AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS SITE PLAN

PLATE REFERENCE NUMBER
EY100

PROPRIETARY AND CONFIDENTIAL



SHEET NOTES

1. PROVIDE (1) 3/4" RGS CONDUIT FROM MTA GAS DETECTION DEVICE BACK TO CABLE TRAY.
2. PROVIDE THERMAL IMAGING CAMERA JUNCTION BOX A12106CHNFSS6 WITH BACKPANEL OR OAE. MOUNT NO MORE THAN 10 FEET FROM CAMERA.
3. PROVIDE (2) 1" RGS CONDUIT FROM THERMAL IMAGING CAMERA TO JUNCTION BOX THEN BACK TO CABLE TRAY.
4. SEE SHEET EY-503 FOR GAS MONITORING SYSTEM DETAILS AND SHEET EY-603 FOR GAS MONITORING WIRING DIAGRAM.

1 ENLARGMENT PLAN - LOX AREA
SCALE: 1/8" = 1'-0"

8 0 8 16
SCALE: 1/8" = 1'-0"

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

REV	SYMBOL	DESCRIPTION	DATE	BY
A		HAZARDOUS PLAN UPDATES	02/25/2021	MAS

DESIGNED BY: MAS
DRWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CV
DATE: 10/8/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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FIRE AND LEAK DETECTION

ENLARGED PLAN - LOX STORAGE AREA

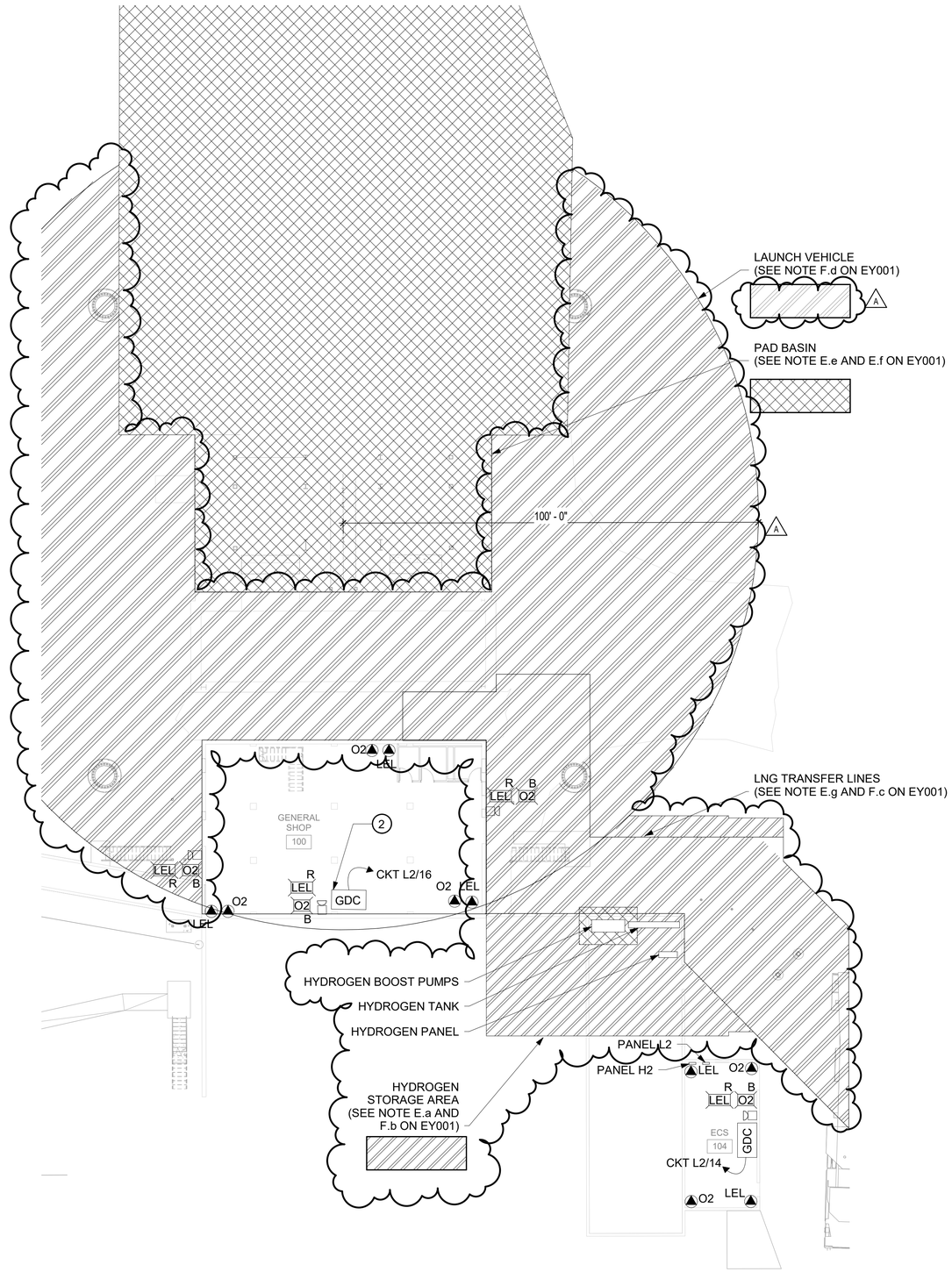
PLATE REFERENCE NUMBER
EY401

SHEET LEGEND

- CLASS 1, DIVISION 1, GROUPS B,C C, OR D OR ANYCOMBINATION AS DELINEATED IN DRAWING
- CLASS I, DIVISION 2, GROUP B, AND D
- CLASS I, DIVISION 2, GROUP B

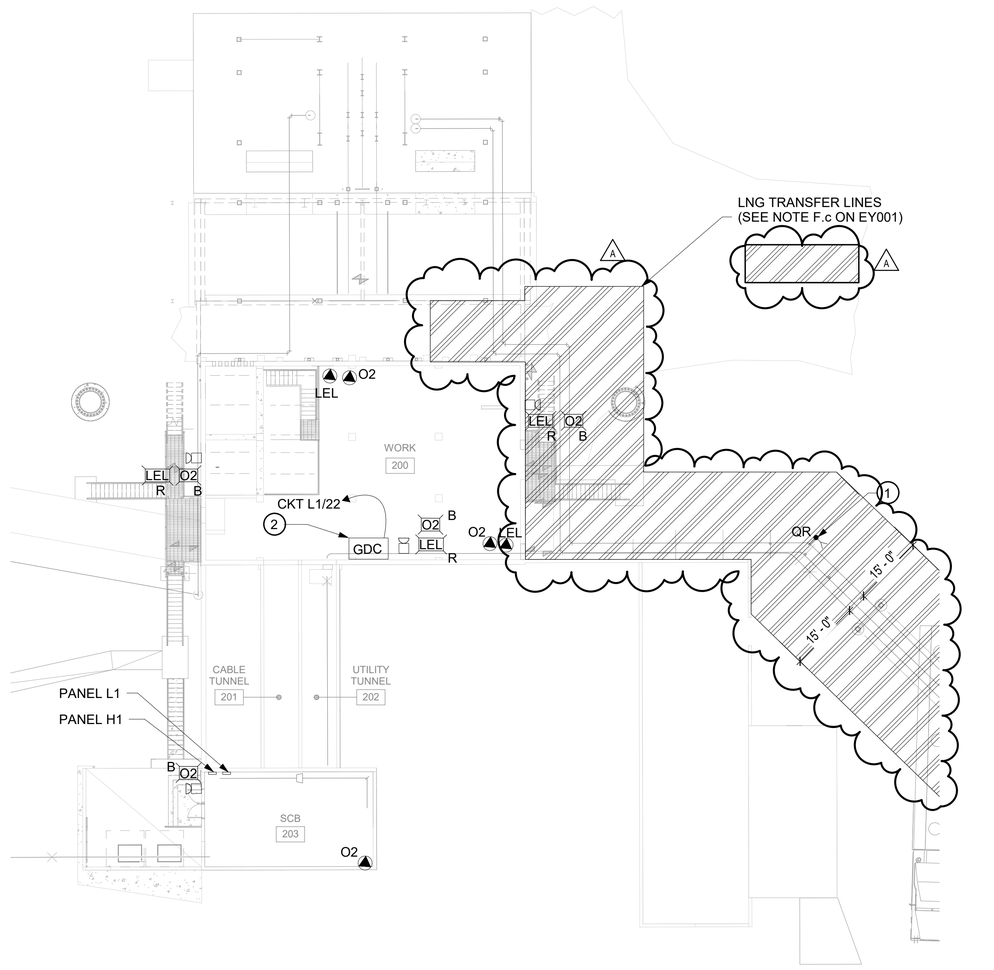
SHEET NOTES

1. PROVIDE (1) 3/4" RGS CONDUIT FROM MTA GAS DETECTION DEVICE BACK TO CABLE TRAY.
2. GENERAL SHOPS ROOM 100 AND WORK AREA 200 ARE CONTINUALLY MONITORED FOR FLAMMABLE GASES AND OXYGEN. SHOULD THE LEVEL OF FLAMMABLE GASES REACH 25% OR MORE IN EITHER ROOM THE GDCs SHALL FORCE A SHUTDOWN EXHAUST FANS EF-1 THRU EF-4 AND CLOSE INTAKE DAMPER LOCATED IN ROOM 100 AND SHUTDOWN EF-5 LOCATED IN ROOM 200. COORDINATE RELAY ATTACHMENT FROM GDCs AND MECHANICAL EQUIPMENT ACCORDINGLY.



1 FIRST FLOOR ENLARGEMENT PLAN - PAD/ECS BUILDING

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



2 SECOND FLOOR ENLARGEMENT PLAN - PAD/ECS BUILDING

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

16 0 16 32

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

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

REV	SYMBOL	DESCRIPTION	DATE	BY
A		HAZARDOUS PLAN UPDATES	02/25/2021	MAS

DESIGNED BY: MAS
DRAWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CW
DATE: 10/9/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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FIRE AND LEAK DETECTION

ENLARGED PLAN - PAD

PLATE REFERENCE NUMBER
EY402

SHEET LEGEND

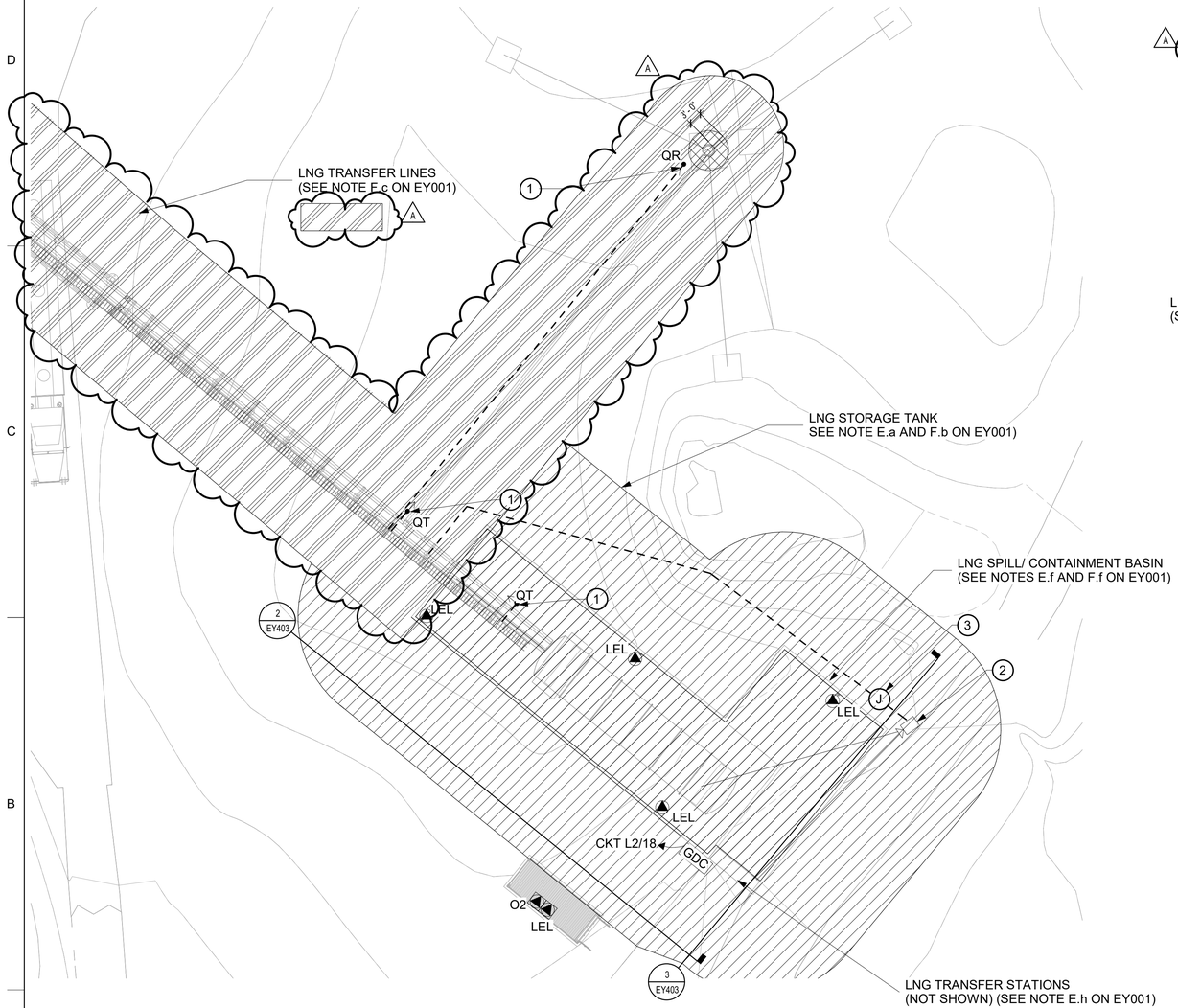
CLASS 1, DIVISION 1, GROUPS B, C, OR D OR ANYCOMBINATION AS DELINEATED IN DRAWING

CLASS I, DIVISION 2, GROUP D

CLASS I, DIVISION 2, GROUP B, AND D

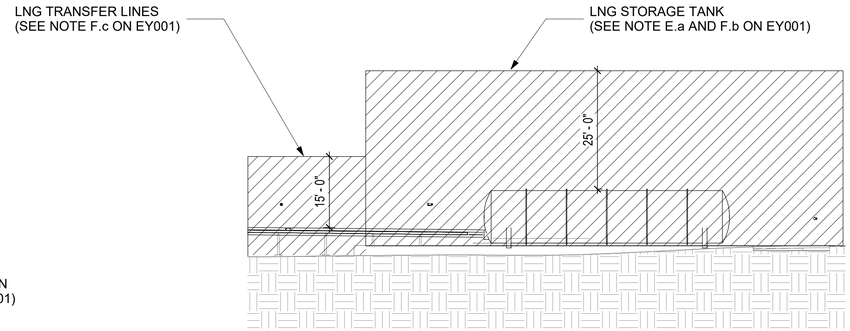
SHEET NOTES

1. PROVIDE (2) 3/4" RGS CONDUIT FROM OPEN PATH GAS DETECTION DEVICE BACK TO CABLE TRAY.
2. PROVIDE THERMAL IMAGING CAMERA JUNCTION BOX A12106CHNFSS6 WITH BACKPANEL OR OAE. MOUNT NO MORE THAN 10 FEET FROM CAMERA.
3. PROVIDE (2) 1" RGS CONDUIT FROM THERMAL IMAGING CAMERA TO JUNCTION BOX THEN BACK TO CABLE TRAY.
4. SEE SHEET EY-501 THRU EY-504 FOR GAS MONITORING SYSTEM DETAILS AND SHEET EY-601 THRU EY-604 FOR GAS MONITORING WIRING DIAGRAM.



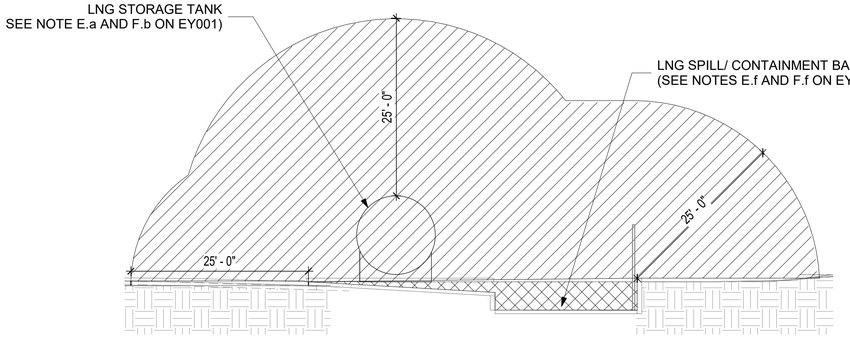
1 ENLARGEMENT PLAN - LNG AREA

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



2 LNG AREA SECTION - 2

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



3 LNG AREA SECTION - 3

SCALE: 3/32" = 1'-0"

8 0 8 16 24

SCALE: 3/32" = 1'-0"

16 0 16 32

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

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL
MAS	02/25/2021	HAZARDOUS PLAN UPDATES	REV A

DESIGNED BY: MAS
DWN BY: MAS
CHD BY: KLH
SUBMITTED BY: CW
DATE: 10/8/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SHEET: OF
PLOT DATE: 22"X34"
SIZE: D 22"X34"

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FIRE AND LEAK DETECTION

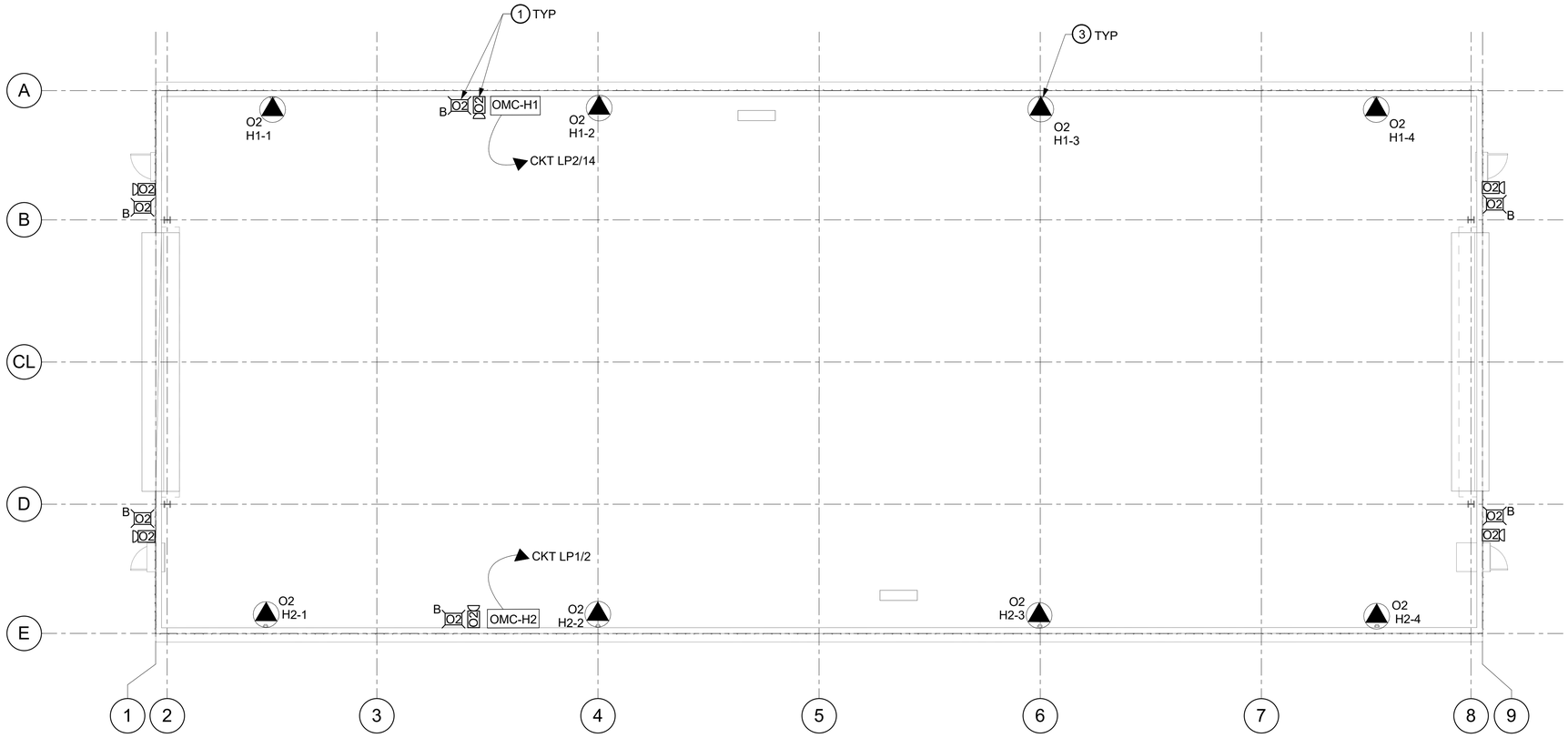
ENLARGED PLAN - LNG

PLATE REFERENCE NUMBER
EY403

PROPRIETARY AND CONFIDENTIAL

SHEET NOTES

1. PROVIDE RED FLASHING LED (EDWARD SIGNAL #105FLED-R-N5/105BM/105BX), BUZZER (EDWARD SIGNAL #B-KM-8140-N5) AND WARNING SIGN PER DETAIL ON EY-501.
2. SEE SHEET EY-503 FOR OXYGEN MONITORING SYSTEM DETAILS AND SHEET EY-601 FOR OXYGEN MONITORING WIRING DIAGRAM.
3. PROVIDE DIRECT CONNECT OXYGEN SENSOR (RKI INSTRUMENTS # 65-2497RK) MOUNTED AT 5'-5" AFF IN AREA SHOWN.
4. THE VEHICLE PAYLOAD CONTAINS ENCAPSULATED FUELS, WHICH ARE NOT PROCESSED OR TRANSFERRED WHILE WITHIN THE HANGAR. THEREFORE, THERE ARE NO ELECTRICAL HAZARDS RESULTING FROM THEIR PRESENCE. REFER TO THE LIFE SAFETY PLAN (BY OTHERS) FOR TYPES AND QUANTITIES.



1 ENLARGMENT PLAN - HANGAR
SCALE: 1/8" = 1'-0"

8 0 8 16
SCALE: 1/8" = 1'-0"

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	BY
A	HAZARDOUS PLAN UPDATES	02/25/2021	MAS

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 10/9/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SHEET: OF
PLOT DATE: 22"X34"
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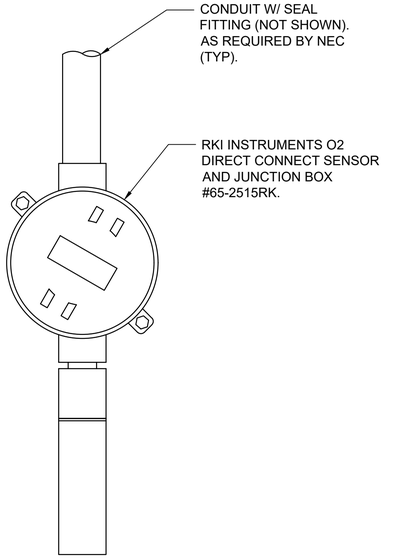
FIRE AND LEAK DETECTION

ENLARGED PLAN - HANGAR

PLATE REFERENCE NUMBER
EY404

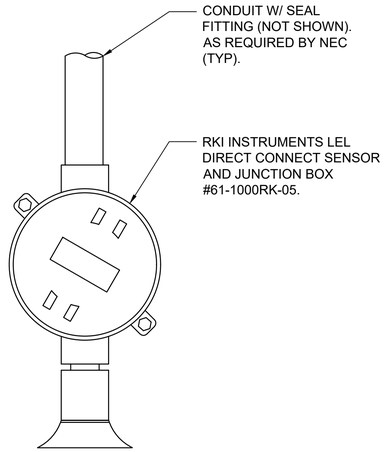
PROPRIETARY AND CONFIDENTIAL



DETAIL NOTES:

1. MOUNT OXYGEN SENSOR 'INLET' AT 5'-5" AFF (TYP).

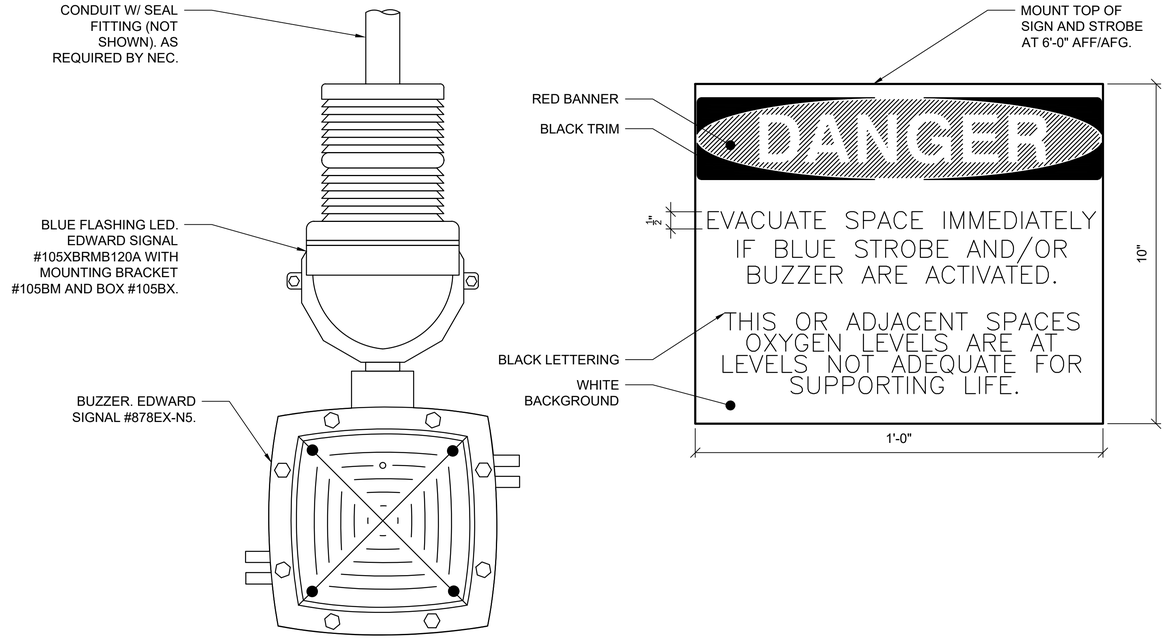
C1 — OXYGEN SENSOR DETAIL
SCALE: NTS



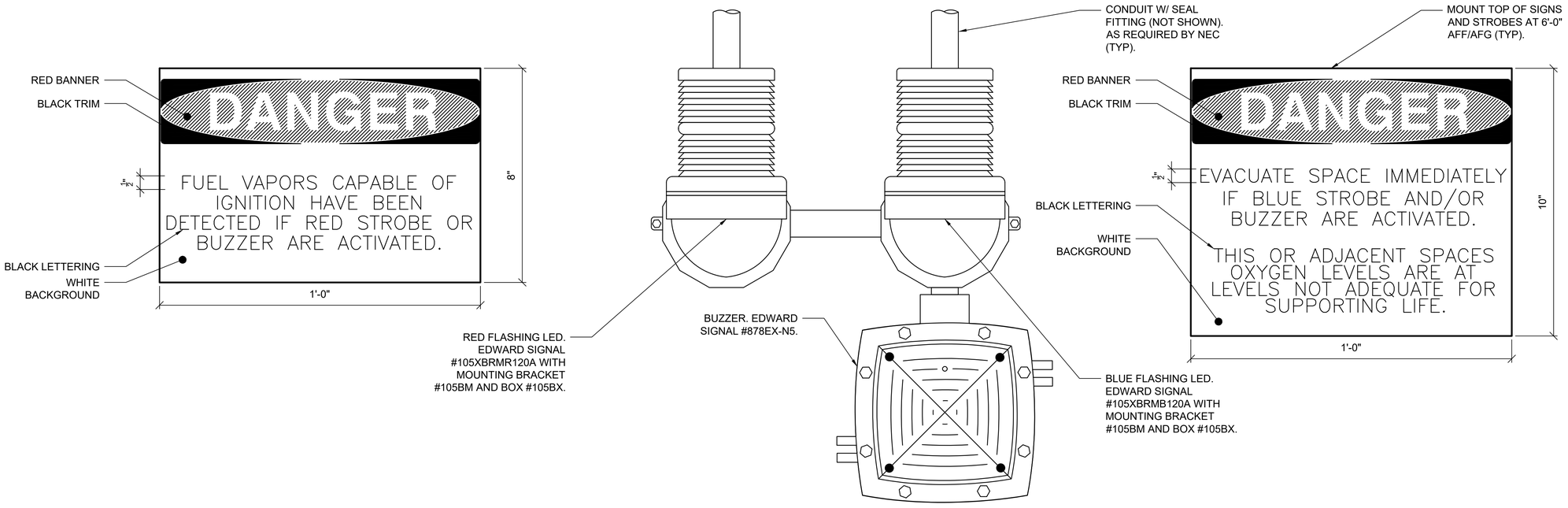
DETAIL NOTES:

1. ROUTE AND INSTALL LEL DETECTORS SUCH THAT SENSOR 'INLET' IS DIRECTED DOWN. SENSORS ARE MOUNTED SUCH THAT THE SENSOR 'INLET' IS AT 18" ABOVE THE FINISHED FLOOR (TYP). SENSORS SHALL BE CALIBRATED FROM THE MANUFACTURER FOR USE WITH LNG.

C2 — LEL SENSOR DETAIL
SCALE: NTS



C3 — OXYGEN VISUAL/ AUDIBLE WARNING WITH PLACARD
SCALE: NTS



A1 — OXYGEN AND FUEL VISUAL/ AUDIBLE WARNING WITH PLACARDS
SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-501.DWG
DWG NUMBER: RS-D001-2020
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 8/14/2020

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CX16 FIRE ALARM AND LEAK DETECTION

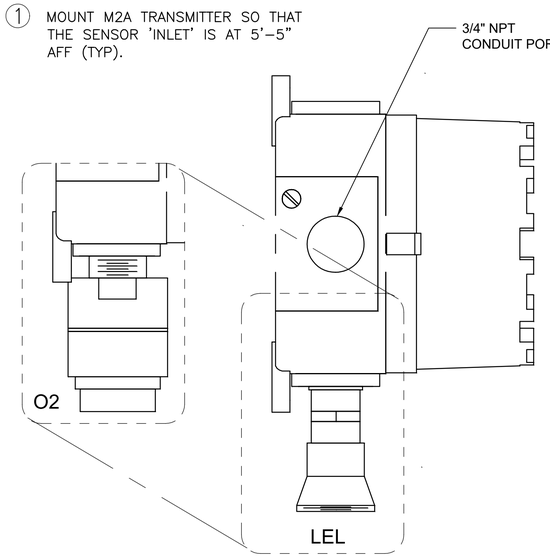
ELECTRICAL SUBSYSTEMS
DETAILS - 1

PLATE REFERENCE NUMBER
EY-501

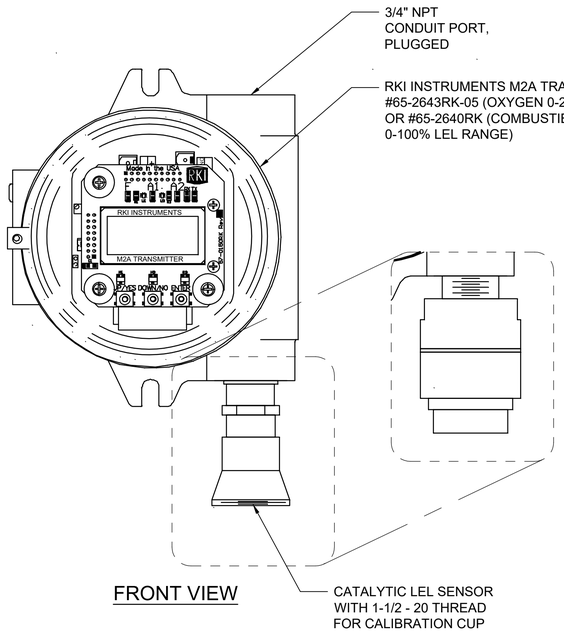
PROPRIETARY AND CONFIDENTIAL

DETAIL NOTES:

1. MOUNT M2A TRANSMITTER SO THAT THE SENSOR 'INLET' IS AT 5'–5" AFF (TYP).



SIDE VIEW

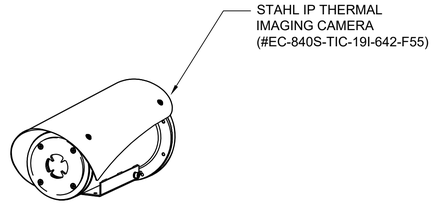


FRONT VIEW

C1 -

M2A TRANSMITTER DETAIL

SCALE: NTS



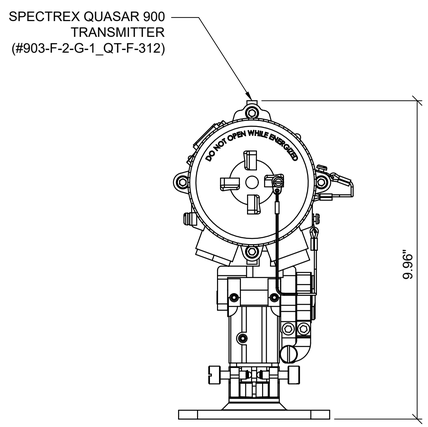
DETAIL NOTES:

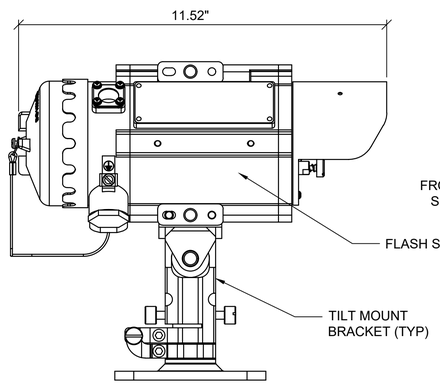
1. MOUNTING IS TBD.

C4 -

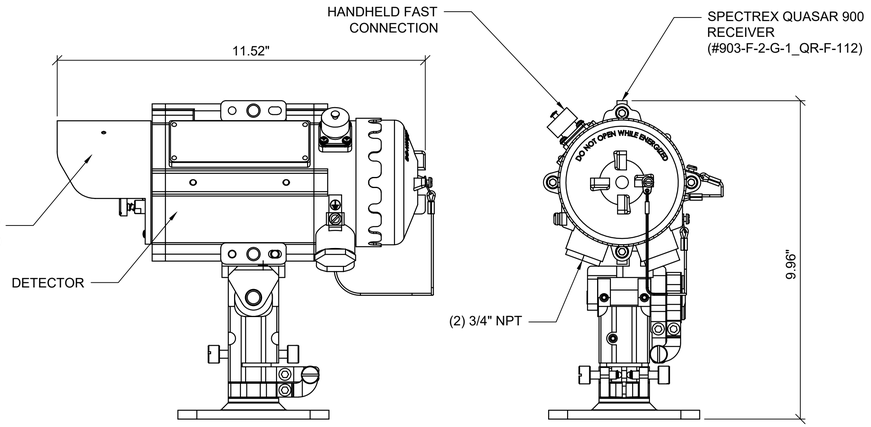
THERMAL IMAGING CAMERA DETAIL

SCALE: NTS





TRANSMITTER UNIT



RECEIVER UNIT

DETAIL NOTES:

1. MOUNT OPEN PATH DETECTION IN CLEAR VIEW AND IN ALIGNMENT WITH CORRESPONDING UNIT.

A1 -

OPEN PATH GAS DETECTION AND TILT MOUNT ASSEMBLIES

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-502.DWG
DWG NUMBER: RS-D001-2020
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 8/15/2020

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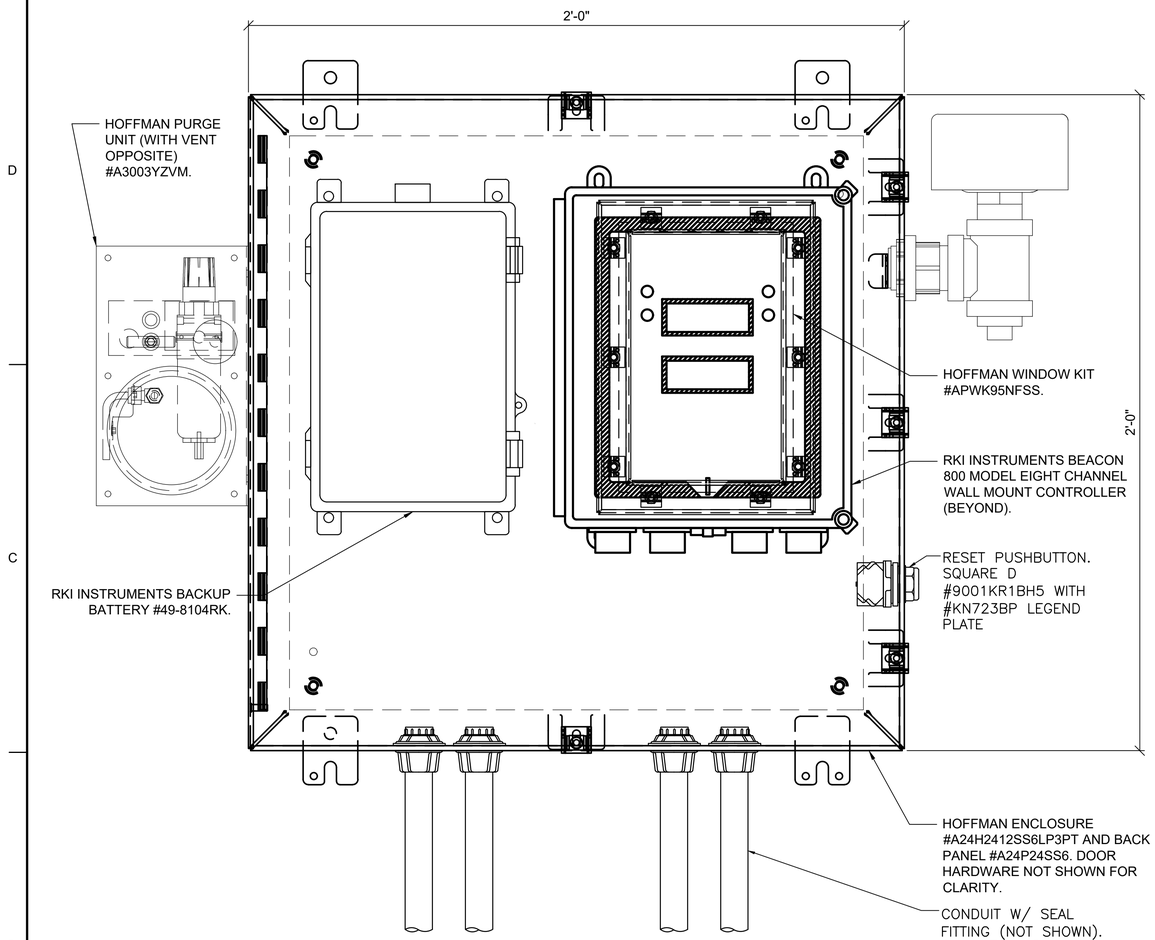
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS
DETAILS - 2

PLATE REFERENCE NUMBER
EY-502

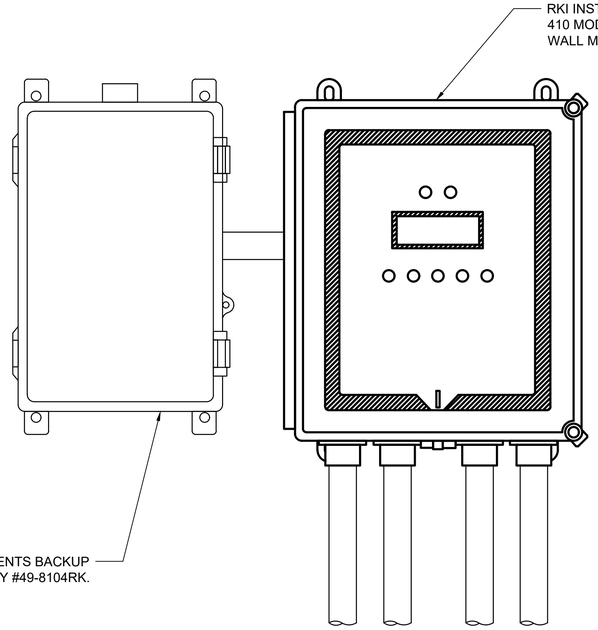
PROPRIETARY AND CONFIDENTIAL



B1

GAS DETECTION CONTROLLER (PAD RM 100 & RM 200)

SCALE: NTS



C4

OXYGEN MONITOR CONTROLLER (HANGAR H1 & H2 AND ECS)

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DATE: 8/14/2020

DWG NUMBER: RS-D001-2020

PLOT DATE: 8/15/2020

DESIGNED BY: KLH

DWN BY: MAS

CKD BY: KLH

SUBMITTED BY: CDW

FILE NAME: REL4-EY-503.DWG

SIZE: D 22"X34"

SHEET: OF

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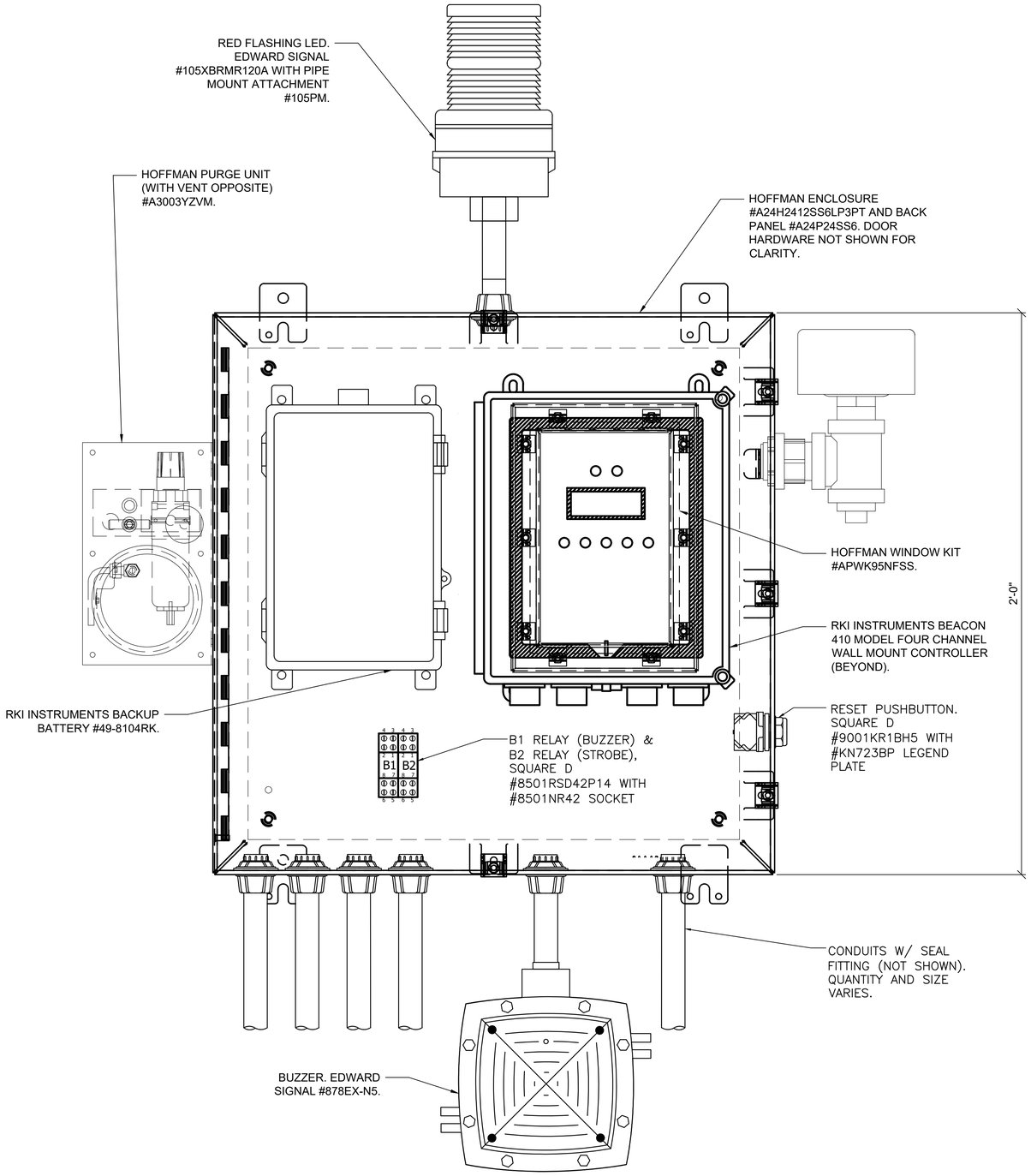
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS
DETAILS - 3

PLATE REFERENCE NUMBER

EY-503



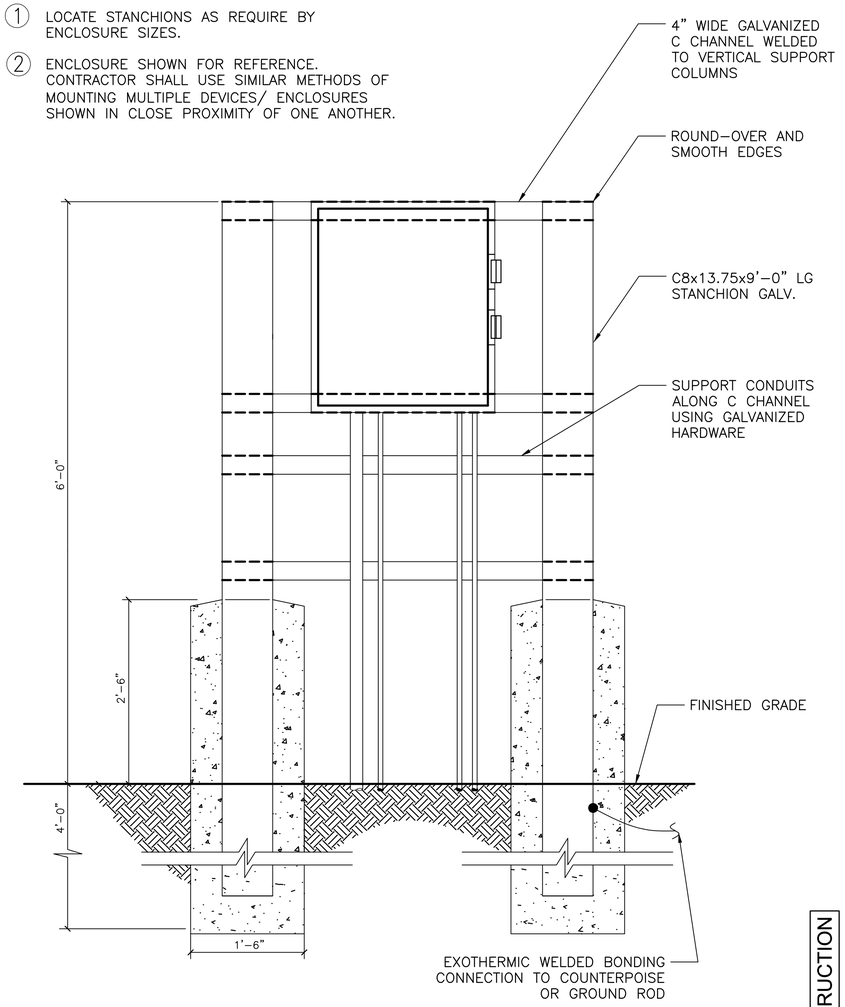
A1

GAS DETECTION CONTROLLER (LNG)

SCALE: NTS

DETAIL NOTES:

1. LOCATE STANCHIONS AS REQUIRE BY ENCLOSURE SIZES.
2. ENCLOSURE SHOWN FOR REFERENCE. CONTRACTOR SHALL USE SIMILAR METHODS OF MOUNTING MULTIPLE DEVICES/ ENCLOSURES SHOWN IN CLOSE PROXIMITY OF ONE ANOTHER.



B4

ENCLOSURE/ DEVICE MOUNTING DETAIL

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-504.DWG
SIZE: D 22"X34"
SHEET: OF
DWG NUMBER: RS-D001-2020
PLOT DATE: 8/15/2020

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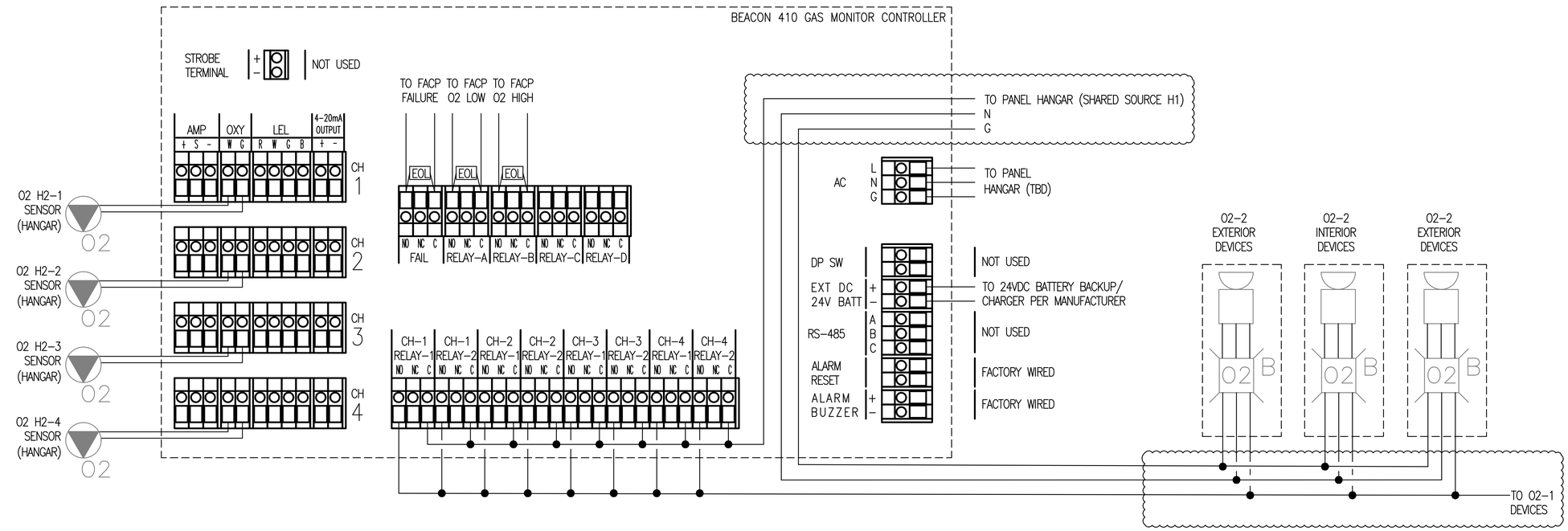
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS
DETAILS - 4

PLATE REFERENCE NUMBER
EY-504

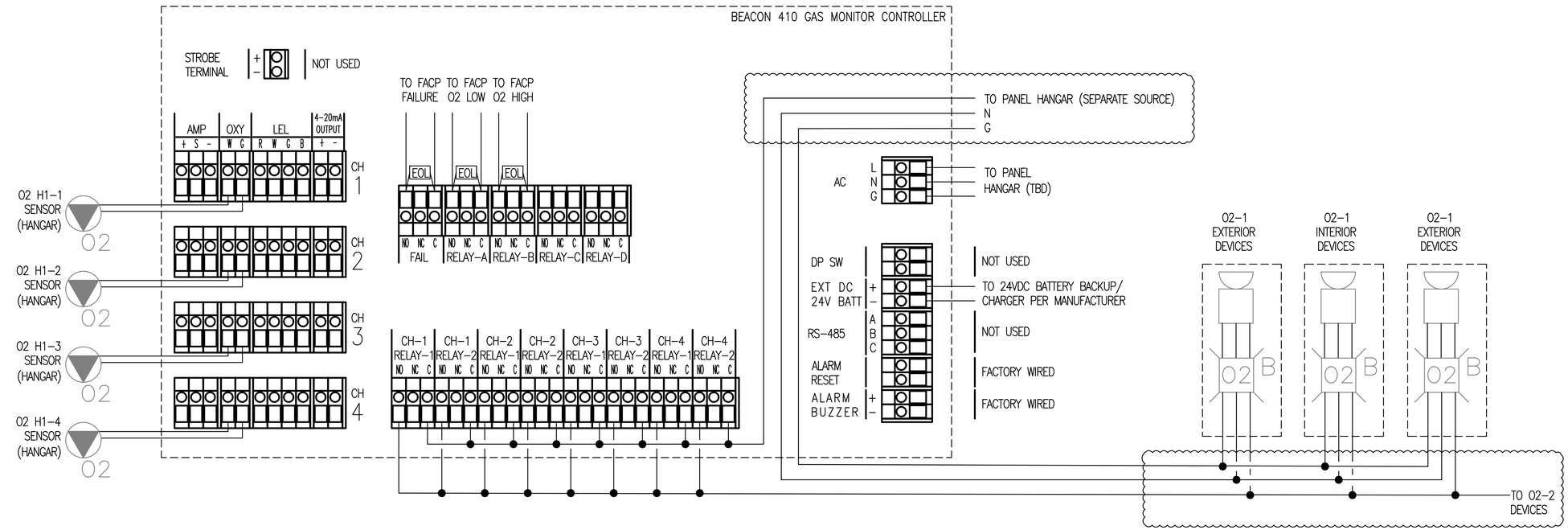
PROPRIETARY AND CONFIDENTIAL



C1

OXYGEN DETECTION CONTROLLER - HANGAR H2

SCALE: NTS



A1

OXYGEN DETECTION CONTROLLER - HANGAR H1

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-601.DWG
DWG NUMBER: RS-D001-2020
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 4/20/2021

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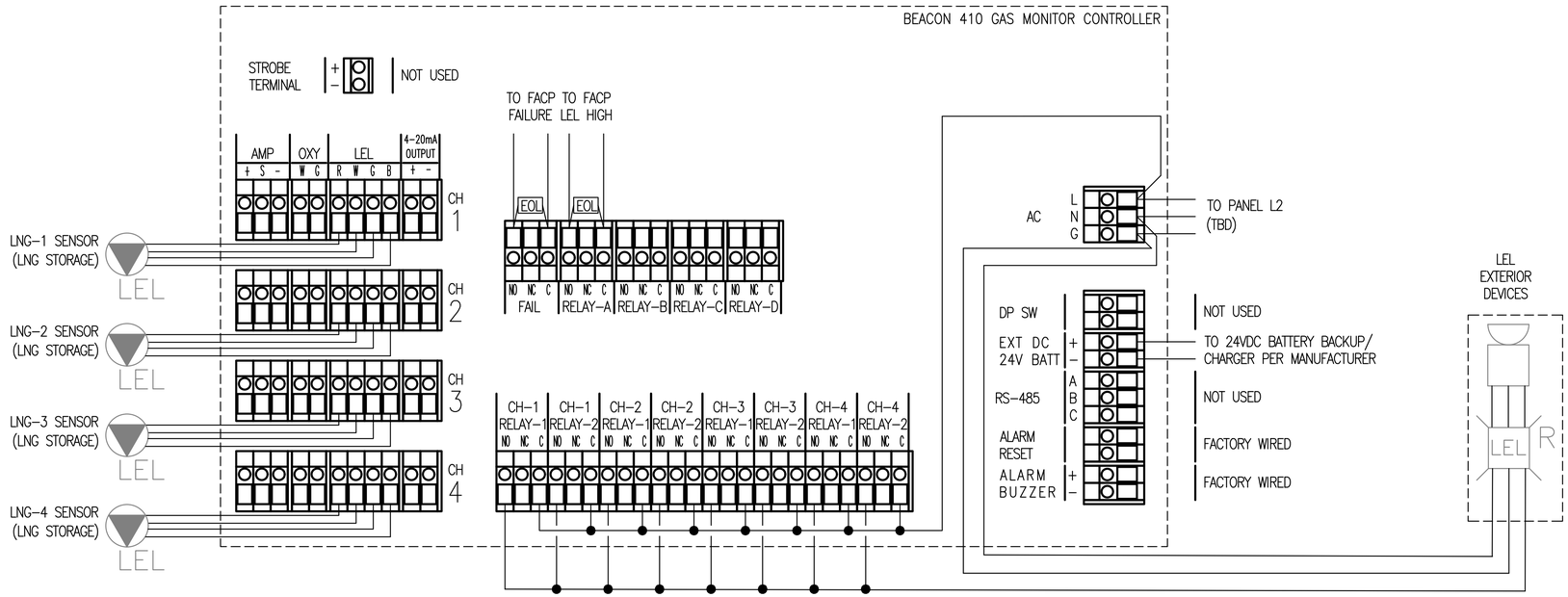
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS DIAGRAM - HANGAR

PLATE REFERENCE NUMBER
EY-601

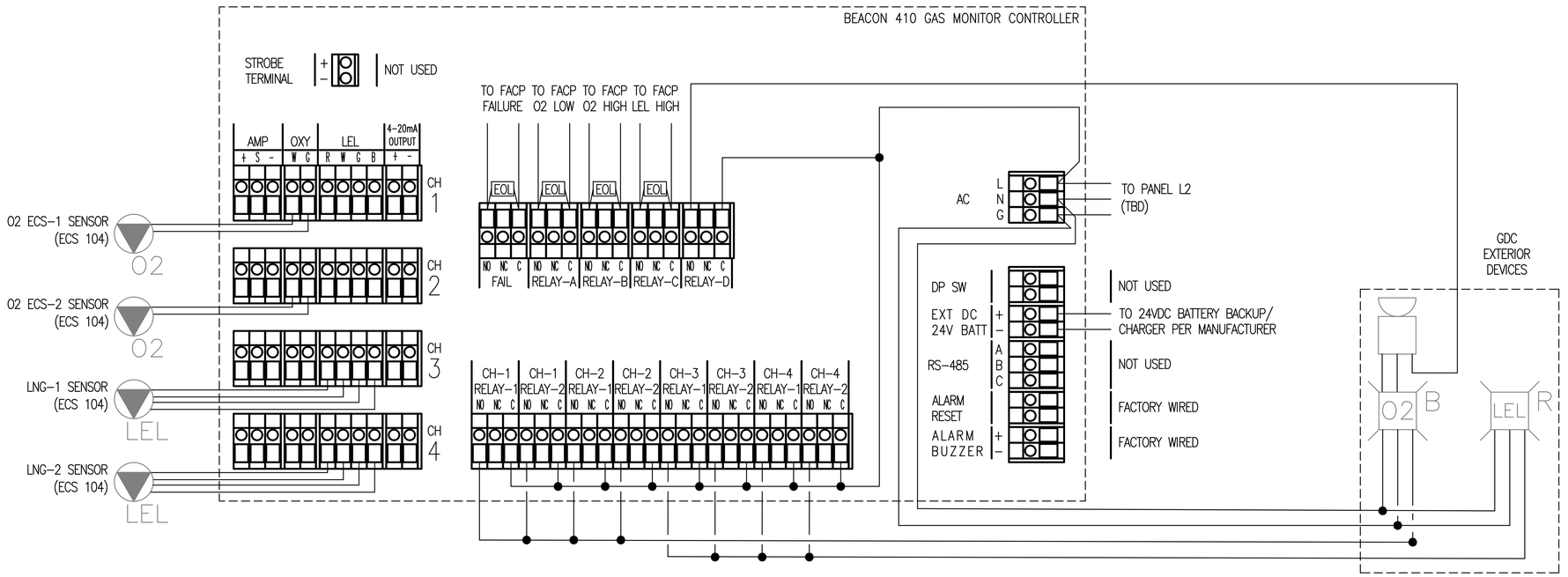
PROPRIETARY AND CONFIDENTIAL



C1

GAS DETECTION CONTROLLER - LNG STORAGE

SCALE: NTS



A1

GAS DETECTION CONTROLLER - ECS

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: KLH
DWN BY: MAS
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-602.DWG
SIZE: D 22"X34"
SHEET: OF
DWG NUMBER: RS-D001-2020
PLOT DATE: 8/15/2020

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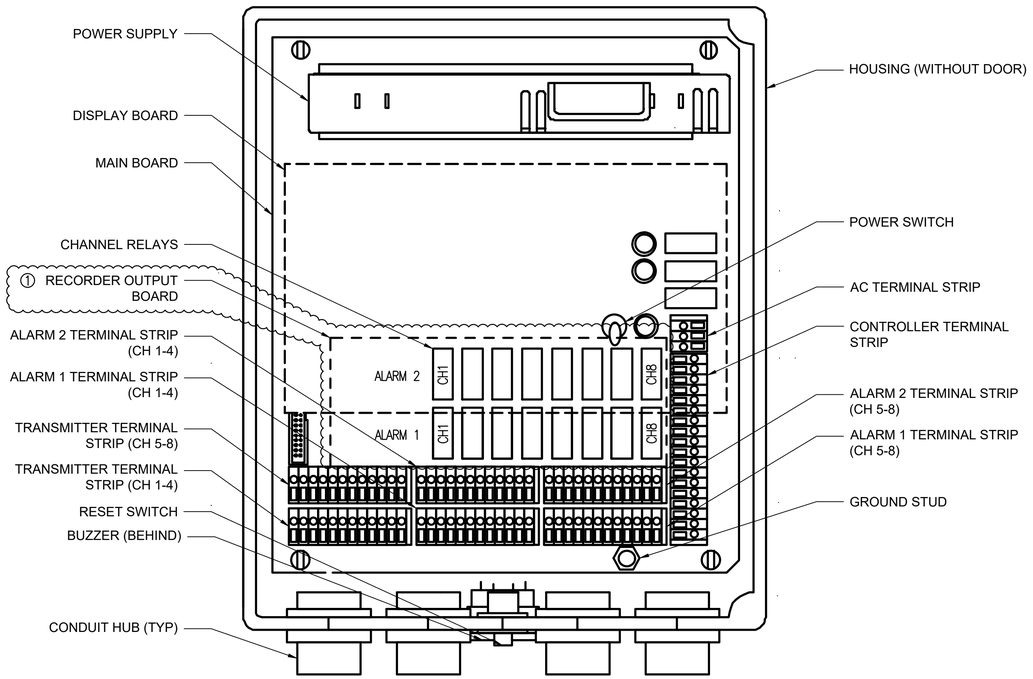
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS DIAGRAM - ECS & LNG

PLATE REFERENCE NUMBER
EY-602



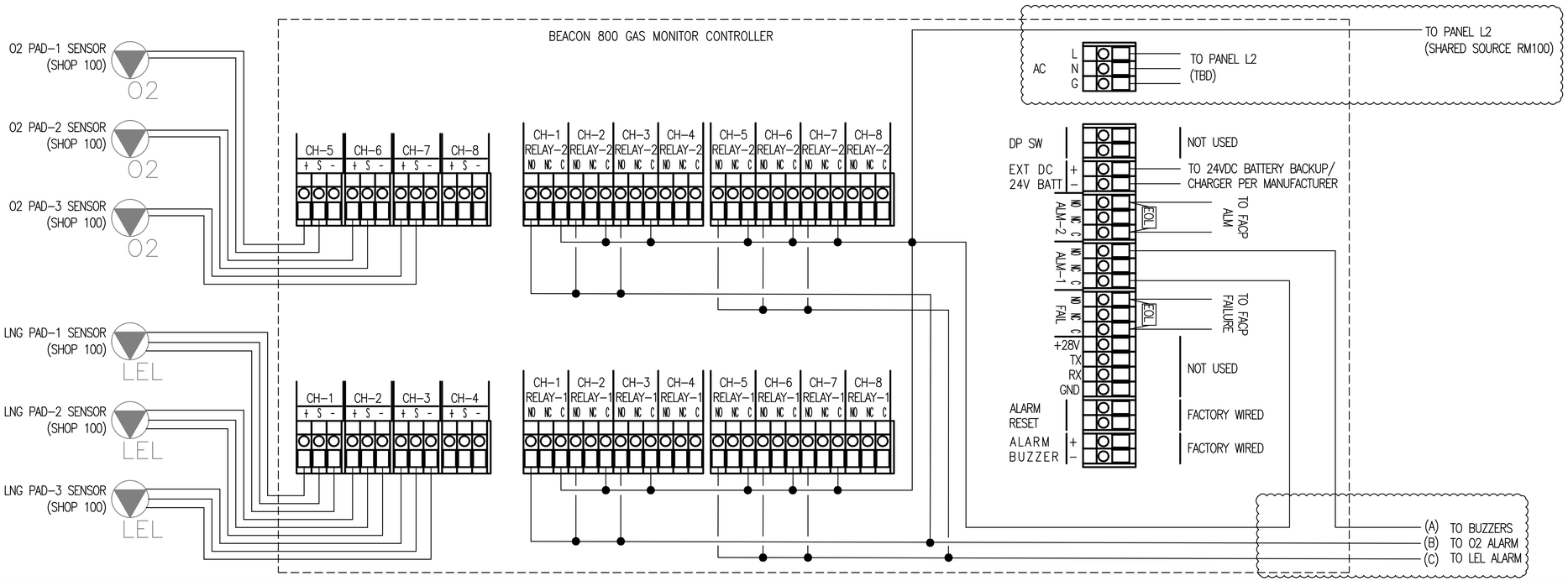
C1

GAS DETECTION CONTROLLER - BEACON 800 LAYOUT

SCALE: NTS

SHEET NOTES

① BEACON 800 GAS DETECTION CONTROLLER TO INCLUDE OPTIONAL RECORDER OUTPUT BOARD.



A1

GAS DETECTION CONTROLLER - GENERAL SHOP RM 100

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: DWN BY: MAS | CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
DWG NUMBER: RS-D001-2020
FILE NAME: REL4-EY-603.DWG
PLOT DATE: 4/20/2021
SIZE: D | SHEET: OF
22"X34"

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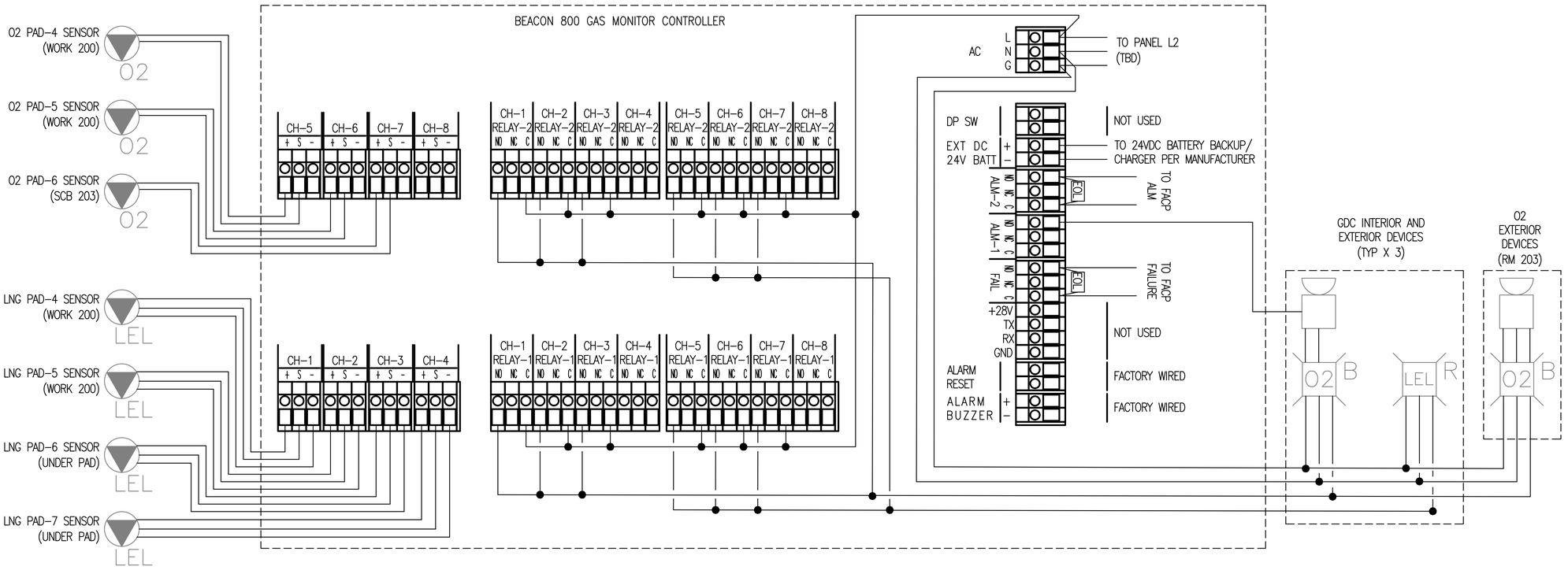
CX16 FIRE ALARM AND LEAK DETECTION

ELECTRICAL SUBSYSTEMS DIAGRAM - PAD FIRST FLOOR

PLATE REFERENCE NUMBER
EY-603



A1

GAS DETECTION CONTROLLER - WORK ROOM 200

SCALE: NTS

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: KLH
DWN BY: MA
CKD BY: KLH
SUBMITTED BY: CDW
DATE: 8/14/2020
FILE NAME: REL4-EY-604.DWG
DWG NUMBER: RS-D001-2020
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 8/15/2020

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CX16 FIRE ALARM AND LEAK DETECTION
ELECTRICAL SUBSYSTEMS
DIAGRAM - PAD SECOND FLOOR

PLATE REFERENCE NUMBER
EY-604

PANEL: H1

RATING: 400 AMP MCB | SERVICE: 480/277V, 3ø, 4W | LUG LOCATION: BOTTOM | MOUNTING: SURFACE | A.I.C.: 25,000 | TYPE: PANELBOARD

CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø	CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø
1	TRANSFORMER T1	30	3	45	6	–	8	1		2	UPS BY OTHERS **	83**	3	125	1	1	6	1.5	
3	⊥			⊥	⊥					4	⊥			⊥	⊥				
5										6									
7	CU-1	11	3	20	12	–	12	3/4		8	LIGHTING, 100	.84	1	20	12	12	12	3/4	
9	⊥			⊥	⊥					10	LIGHTING, 200	1.5	1	20	12	12	12	3/4	
11										12	LIGHTING, IBAY	0.5	1	20	12	12	12	3/4	
13	CU-2	11	3	20	12	–	12	3/4		14	LIGHTING, EXT	0.4	1	20	12	12	12	3/4	
15	⊥			⊥	⊥					16	TRANSFORMER T3	9	3	15	12	–	12	3/4	
17										18									
19	AHU-1	11	3	25	10	–	12	3/4		20	⊥			⊥	⊥				
21	⊥			⊥	⊥					22									
23										24									
25	AHU-2	11	3	25	10	–	12	3/4		26									
27	⊥			⊥	⊥					28									
29										30									
31	EF-4	.2	3	15	12	–	12	3/4		32	PANEL H2	20.4	3	100	1/0	1/0	4	1.5	
33	⊥			⊥	⊥					34	⊥			⊥	⊥				
35										36									
37	EF-5	1.5	3	15	12	–	12	3/4		38	SPD	–	3	30	10	10	10	3/4	
39	⊥			⊥	⊥					40	⊥			⊥	⊥				
41										42									

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND
LIGHTING	3.6 KVA			3.6 KVA
EQUIPMENT	86.5 KVA			86.5 KVA
SUBPANEL L1	17.4 KVA			17.4 KVA
SUBPANEL H2	20.4 KVA			20.4 KVA
UPS **	83 KVA			83 KVA
TOTAL CONNECTED				211 KVA
MAXIMUM AMPS				254 AMPS

REMARKS:

PROVIDE PANELBOARD DIRECTORY

PANEL: L1

RATING: 100 AMP MCB | SERVICE: 120/208V, 3ø, 4W | LUG LOCATION: TOP | MOUNTING: SURFACE | A.I.C.: 10,000 | TYPE: PANELBOARD

CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø	CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø
1	RECEPTACLES, EXT	.72	1	20	12	12	12	3/4		2	EF-1, 2, 3, DAMPERS	.2	1	15	12	12	12	3/4	
3	RECEPTACLES, EXT	.54	1	20	12	12	12	3/4		4	MOTORIZED DAMPERS	.1	1	15	12	12	12	3/4	
5	RECEPTACLES, RM 100	.54	1	20	12	12	12	3/4		6	ODU-1	1.2	2	15	12	–	12	3/4	
7	RECEPTACLES, RM 100	.38	1	20	12	12	12	3/4		8	⊥			⊥	⊥				
9	RECEPTACLES, RM 100	.9	1	20	12	12	12	3/4		10	ODU-2	1.2	2	15	12	–	12	3/4	
11	RECEPTACLES, RM 100	.72	1	20	12	12	12	3/4		12	⊥			⊥	⊥				
13	RECEPTACLES, RM 100	.72	1	20	12	12	12	3/4		14	EWH-2	5	2	30	10	–	10	3/4	
15	RECEPTACLES, RM 200	.54	1	20	12	12	12	3/4		16	⊥			⊥	⊥				
17	RECEPTACLES, RM 200	1.2	1	20	12	12	12	3/4		18	EWH-1	1.5	1	20	12	12	12	3/4	
19	RECEPTACLES, RM 200	.72	1	20	12	12	12	3/4		20									
21	RECEPTACLES, RM 200	.72	1	20	12	12	12	3/4		22	BEACAN 800 - WORK		1	20					3/4
23	RECEPTACLES, RM 202	.54	1	20	12	12	12	3/4		24	SPARE		1	20					
25	RECEPTACLES, RM 202	.54	1	20	12	12	12	3/4		26	SPARE		1	20					
27	RECEPTACLES, RM 202	.54	1	20	12	12	12	3/4		28	SPARE		1	20					
29	RECEPTACLES, RM 202	.18	1	20	12	12	12	3/4		30	SPARE		1	20					
31										32									
33										34									
35										36									
37										38									
39										40									
41										42									

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND
RECEPTACLES & MISC	8.3 KVA			8.3 KVA
EQUIPMENT	9.1 KVA			9.1 KVA
TOTAL CONNECTED				17.4 KVA
MAXIMUM AMPS				48.4

REMARKS:

PROVIDE PANELBOARD DIRECTORY

PANEL: H2

RATING: 100 AMP MCB | SERVICE: 480/277V, 3ø, 4W | LUG LOCATION: TOP | MOUNTING: SURFACE | A.I.C.: 10,000 | TYPE: PANELBOARD

CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø	CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø
1	TRANSFORMER T2	30	3	45	6	–	8	1		2	EQUIPMENT BY OTHERS	10	3	35	8	–	10	3/4	
3	⊥			⊥	⊥					4	⊥			⊥	⊥				
5										6									
7	PAC-1	8	3	25	12	–	12	3/4		8	LIGHTING, EXT	.1	1	20	12	12	12	3/4	
9	⊥			⊥	⊥					10	LIGHTING, INT	.4	1	20	12	12	12	3/4	
11										12									
13										14									
15										16									
17										18									
19										20									
21										22									
23										24									
25										26									
27										28									
29										30									
31										32									
33										34									
35										36									
37										38	SPD	–	3	30	10	10	10	3/4	
39										40	⊥			⊥	⊥				
41										42									

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND
LIGHTING	0.5 KVA			0.5 KVA
SUBPANEL L2	1.9 KVA			1.9 KVA
EQUIPMENT	18 KVA			18 KVA
TOTAL CONNECTED				20.4 KVA
MAXIMUM AMPS				24.5

REMARKS:

PROVIDE PANELBOARD DIRECTORY

PANEL: L2

RATING: 100 AMP MCB | SERVICE: 120/208V, 3ø, 4W | LUG LOCATION: TOP | MOUNTING: SURFACE | A.I.C.: 10,000 | TYPE: PANELBOARD

CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø	CKT. NO.	EQUIPMENT SERVED	KVA	CKT.BKR. POLE	CKT.BKR. TRIP	BRANCH CIRCUIT ø	N	GND	C	ø
1	RECEPTACLES, EXT	.38	1	20	12	12	12	3/4		2	TBD	–	2	15	12	–	12	3/4	
3	RECEPTACLES	.38	1	20	12	12	12	3/4		4	⊥			⊥	⊥				
5	RECEPTACLES	.38	1	20	12	12	12	3/4		6	TBD	–	2	15	12	–	12	3/4	
7	RECEPTACLES	.38	1	20	12	12	12	3/4		8	⊥			⊥	⊥				
9	RECEPTACLES	.38	1	20	12	12	12	3/4		10									
11										12									
13										14	BEACAN 410A - ECS		1	20					3/4
15										16	BEACAN 800 - GEN. SHOP		1	20					3/4
17										18	BEACAN 410A - LNG STORAGE		1	20					3/4
19										20	SPARE		1	20					
21										22	SPARE		1	20					
23										24	SPARE		1	20					
25										26									
27										28									
29										30									
31										32									
33										34									
35										36									
37										38									
39										40									
41										42									

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND
RECEPTACLES & MISC	1.9 KVA			1.9 KVA
EQUIPMENT				
TOTAL CONNECTED				1.9 KVA
MAXIMUM AMPS				5.3

REMARKS:

PROVIDE PANELBOARD DIRECTORY

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: Designer
DRAWN BY: Author
CKD.BY: Checker
SUBMITTED BY: Approver
FILE NAME: 22"X34"
SIZE: D 22"X34"
DATE: 10/08/2020
DWG NUMBER: 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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Relativity
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Inglewood, CA 90301

FIRE AND LEAK DETECTION

ELECTRICAL SCHEDULES

PLATE REFERENCE NUMBER
EY605

PROPRIETARY AND CONFIDENTIAL

FIRE ALARM SEQUENCE OF OPERATIONS MATRIX

FIRE ALARM SYSTEM PANEL

SYSTEM INPUTS	ACTIVATE AUDIO-VISUAL ALARM SIGNAL AT GUARD STATION REMOTE ANNUNCIATOR	ACTIVATE AUDIO-VISUAL SUPERVISOR SIGNAL AT GUARD STATION REMOTE ANNUNCIATOR	ACTIVATE AUDIO-VISUAL TROUBLE SIGNAL AT GUARD STATION REMOTE ANNUNCIATOR	AUDIO-VISUAL ALARM INDICATION BY ZONE AT THE MAIN FACP	AUDIO-VISUAL SUPERVISORY INDICATION BY ZONE AT THE MAIN FACP	AUDIO-VISUAL TROUBLE INDICATION BY ZONE AT THE MAIN FACP	ACTIVATE SITE FIRE ALARM HORNS AND STROBES	AUDIO-VISUAL AT THE HANGAR FACP AND TRANSMISSION OF CONDITION TO THE MAIN FACP	ACTIVATE GAS DETECTION ALARMS THROUGH GAS DETECTION CONTROLLER
ALARM									
MANUAL FIRE ALARM PULL STATIONS	X			X			X		
SPOT-TYPE SMOKE DETECTORS	X			X			X		
AIR-ASPIRATING DETECTOR - FIRE DETECTION ACTIVATION	X			X			X		
FLAME DETECTOR ACTIVATION	X			X			X		
GAS DETECTION SYSTEM ALARM	X			X				X	
HANGAR MANUAL FIRE ALARM PULL STATIONS	X			X			X	X	
HANGAR AIR-ASPIRATING DETECTOR - FIRE DETECTION ACTIVATION	X			X			X	X	
HANGAR FLAME DETECTOR ACTIVATION	X			X			X	X	
HANGAR GAS DETECTION SYSTEM ALARM	X			X				X	X
SUPERVISORY									
AIR-ASPIRATING DETECTOR - PRE FIRE DETECTION ACTIVATION		X			X				
GAS DETECTION SYSTEM TROUBLE		X			X				
HANGAR GAS DETECTION SYSTEM TROUBLE		X			X			X	
TROUBLE									
LOW BATTERY VOLTAGE			X			X			
AC POWER FAIL			X			X			
SUPERVISED COMPONENT FAILURE			X			X			
CIRCUIT FAULT			X			X			
HANGAR TROUBLE SIGNALS (AS LISTED ABOVE)			X			X		X	

FIRE ALARM GENERAL NOTES

A. PROVIDE FIRE ALARM SYSTEMS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2017 EDITION, 6TH EDITION FLORIDA FIRE PREVENTION CODE, NFPA 72 AND THE CONTRACT DOCUMENTS.

B. ALL INITIATING, NOTIFICATION, AND SIGNALING CIRCUITS SHALL BE CLASS B MINIMUM. PROVIDE SLC CIRCUITS IN ACCORDANCE WITH NFPA 72.

C. THE AIR ASPIRATING DETECTOR IN THE HANGAR SHALL BE LISTED FOR THE BUILDING HEIGHT. ORIFICE AND PIPING LAYOUT IS DIAGRAMMATIC; COORDINATE WITH MANUFACTURER ON THE CONFIGURATION AND CONTROL UNITS AS NECESSARY TO PROVIDE COMPLETE HANGAR COVERAGE IN ACCORDANCE WITH NFPA 72.

D. PROVIDE SURGE PROTECTORS FOR THE POWER SUPPLY FOR ALL FIRE ALARM PANELS AND ON ALL CIRCUITS OUTSIDE OF THE BUILDINGS.

E. PROVIDE SPOT SMOKE DETECTION AT EACH INTERIOR PANEL, TERMINAL CABINET, ETC. AS REQUIRED BY NFPA 72.

F. PROVIDE BATTERY AND VOLTAGE DROP CALCULATIONS.

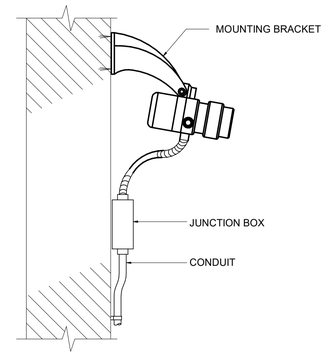
G. BATTERIES CAN BE PROVIDED AT TERMINAL CABINETS TO REDUCE WIRE SIZING TO REMOTE AREAS.

H. MOUNT FLAME DETECTORS APPROXIMATELY 45 DEGREES FROM VERTICAL. RANGE OF VIEW TO EXCLUDE HORIZON AND INCLUDE THE ENTIRETY OF THE HAZARD. FINAL ANGLE OF INSTALLATION TO BE COORDINATED DURING COMMISSIONING.

I. SYSTEM IS MONITORED AT THE REMOTE ANNUNCIATOR LOCATED AT THE CONSTANTLY ATTENDED GUARD STATION. GUARDS WILL CALL FIRE DEPARTMENT AS NECESSARY.

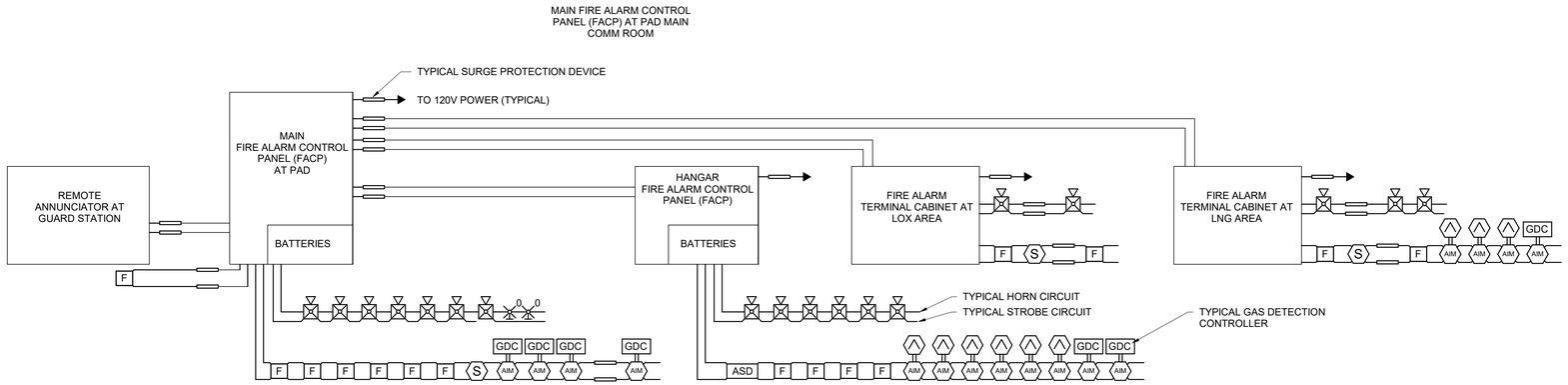
FIRE ALARM LEGEND

FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
ASD	AIR ASPIRATING DETECTOR
GDC	GAS DETECTOR CONTROLLER
	FIRE ALARM FLAME DETECTOR
S	FIRE ALARM SMOKE DETECTOR
F	FIRE ALARM PULL STATION
	FIRE ALARM HORN/STOBE DEVICE (WITH CANDELA)
AIM	FIRE ALARM ADDRESSIBLE INPUT MODULE
	SURGE SUPPRESSOR
	AIR SAMPLING DETECTOR PORT
	AIR SAMPLING DETECTION TUBING
	FIRE EXTINGUISHER



SEE PLANS AND STRUCTURAL DETAIL ON S001 FOR MOUNTING HEIGHTS

1 TYPICAL FLAME DETECTOR
SCALE: N.T.S.



NOTES: SYSTEM IS MONITORED AT THE REMOTE ANNUNCIATOR LOCATED AT THE CONSTANTLY ATTENDED GUARD STATION. GUARDS WILL CALL FIRE DEPARTMENT AS NECESSARY.

FIRE ALARM RISER DIAGRAM

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: AR
DWN BY: AR
CKD BY: SD
SUBMITTED BY: SD
DATE: 10/9/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SHEET: OF
SIZE: D 22"X34"
PLOT DATE: 22"X34"

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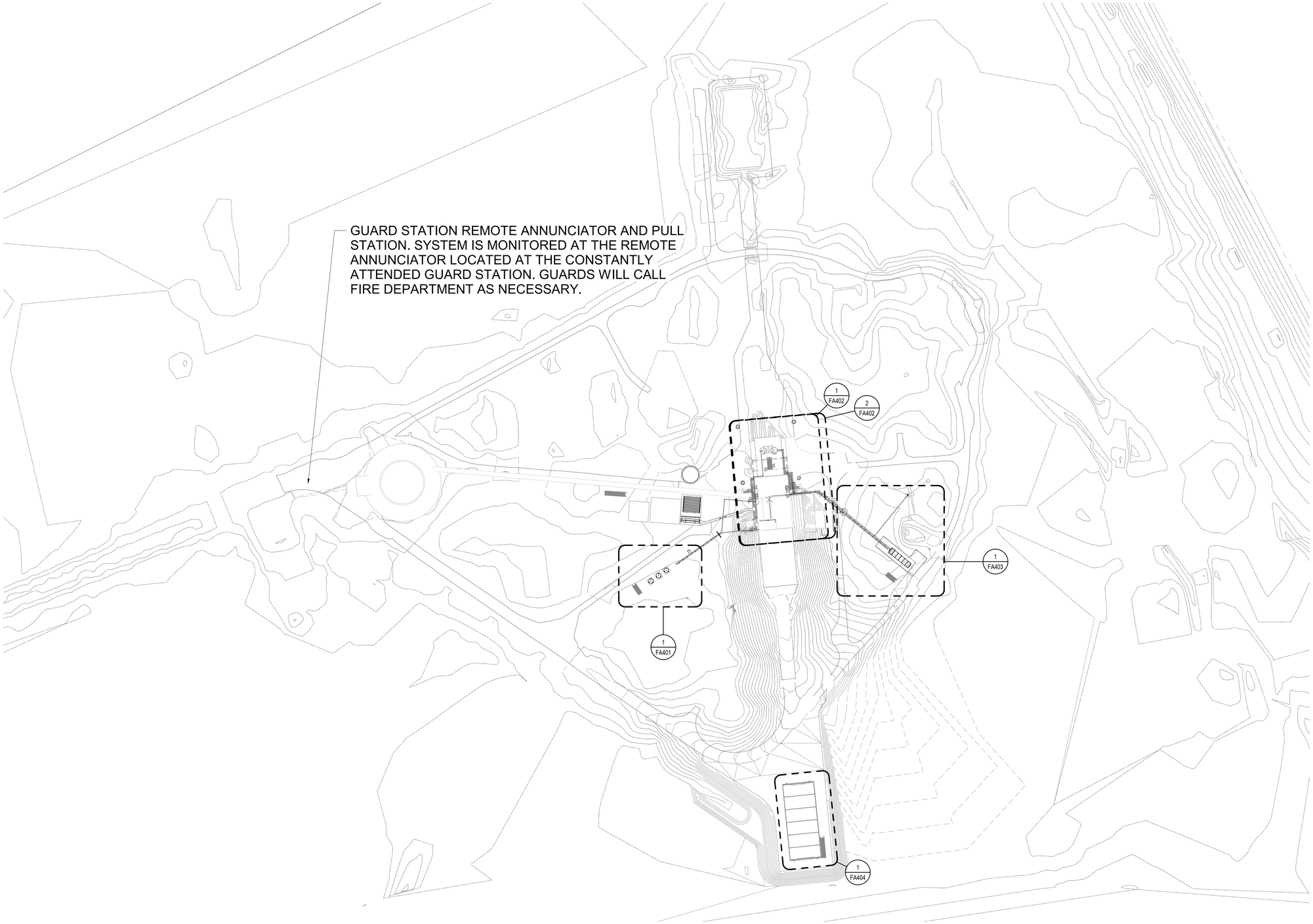
FIRE AND LEAK DETECTION

FIRE ALARM GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

PLATE REFERENCE NUMBER
FA001

PROPRIETARY AND CONFIDENTIAL

GUARD STATION REMOTE ANNUNCIATOR AND PULL STATION. SYSTEM IS MONITORED AT THE REMOTE ANNUNCIATOR LOCATED AT THE CONSTANTLY ATTENDED GUARD STATION. GUARDS WILL CALL FIRE DEPARTMENT AS NECESSARY.



1 FIRE ALARM OVERALL SITE PLAN
SCALE: 1" = 100'-0"

100 0 100 200
SCALE: 1" = 1'-0"

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: AR		DATE: 10/8/2020	
DWN BY: AR	CHD BY: SD		
SUBMITTED BY: SD			
FILE NAME: 22"X34"		DWG NUMBER: 22"X34"	
SIZE: D 22"X34"	SHEET: OF		PLOT DATE: 22"X34"

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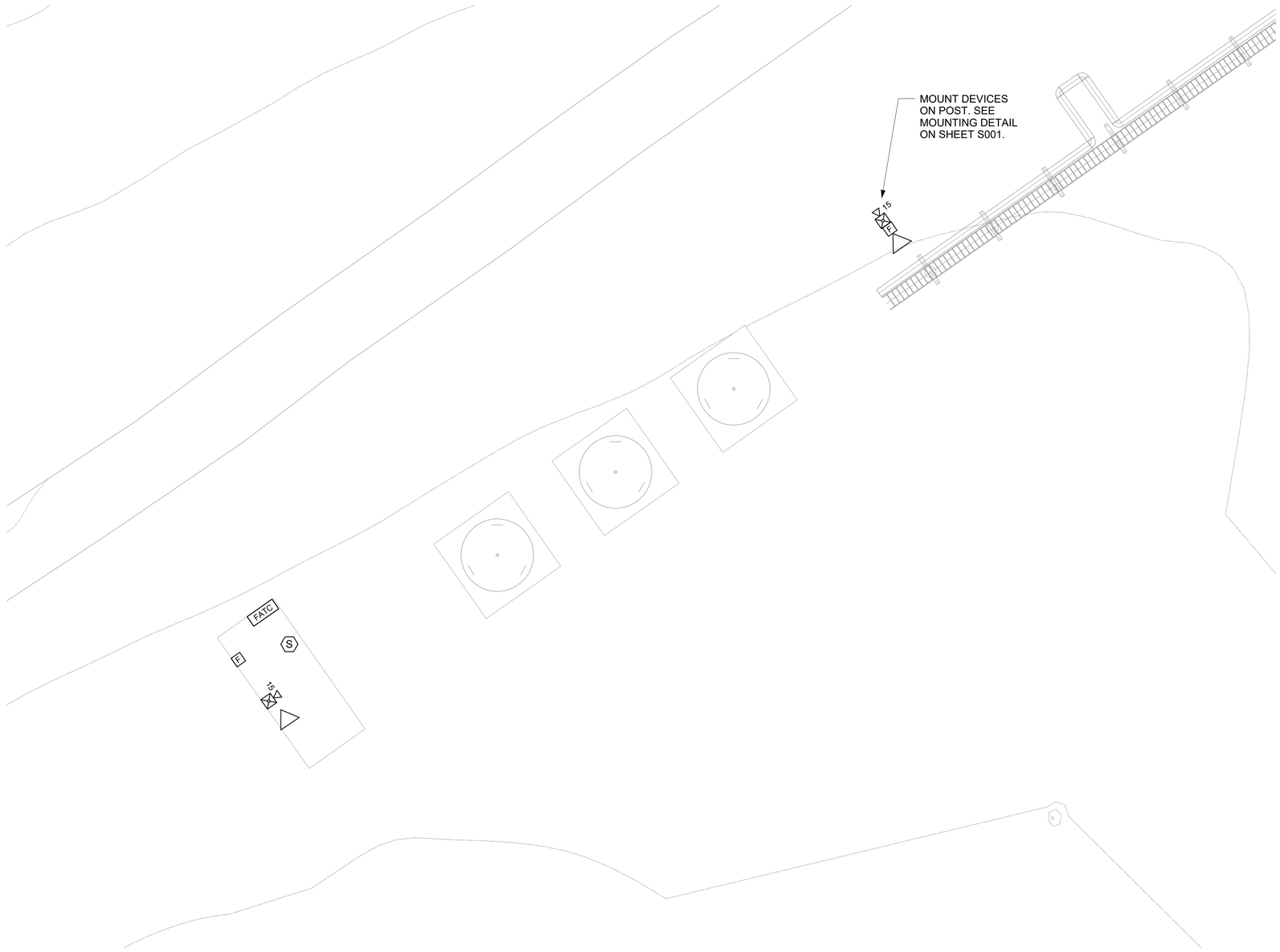
FIRE AND LEAK DETECTION

FIRE ALARM OVERALL SITE PLAN

PLATE REFERENCE NUMBER
FA100



1 FIRE ALARM ENLARGED PLAN - LOX AREA
SCALE: 1/8" = 1'-0"

8 0 8 16
SCALE: 1/8" = 1'-0"

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: AR
DRN BY: AR
CHK BY: SD
SUBMITTED BY: SD
DATE: 10/9/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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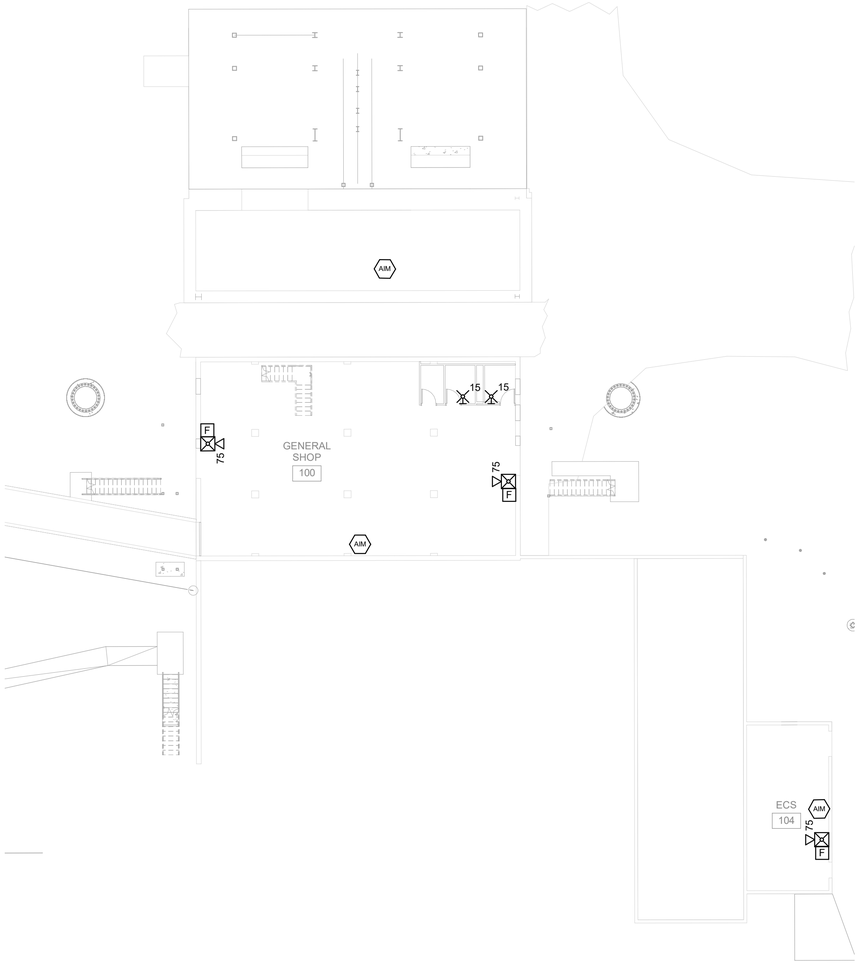
FIRE AND LEAK DETECTION

FIRE ALARM ENLARGED PLAN - LOX STORAGE AREA

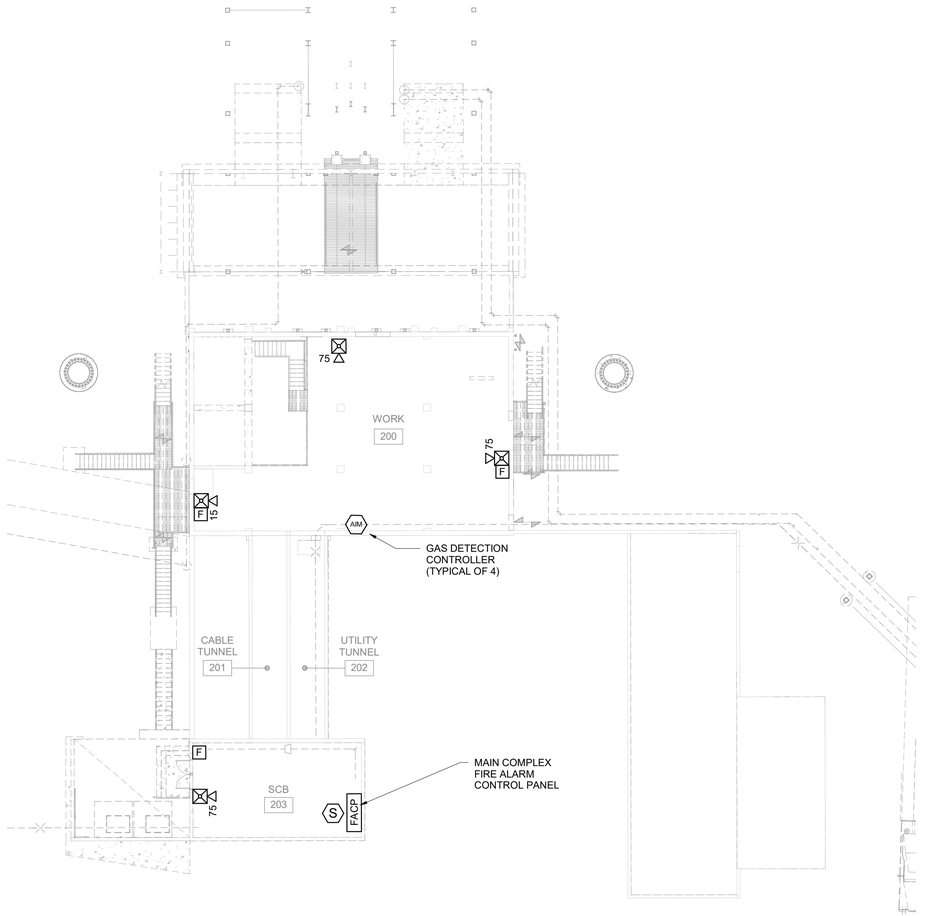
PLATE REFERENCE NUMBER
FA401

PROPRIETARY AND CONFIDENTIAL



1 FIRE ALARM ENLARGED PLAN - FIRST FLOOR PAD/ECS BUILDING

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



2 FIRE ALARM ENLARGED PLAN - SECOND FLOOR PAD/ECS BUILDING

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

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

16 0 16 32

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

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: AR
DRWN BY: AR
CHD BY: SD
SUBMITTED BY: SD
DATE: 10/8/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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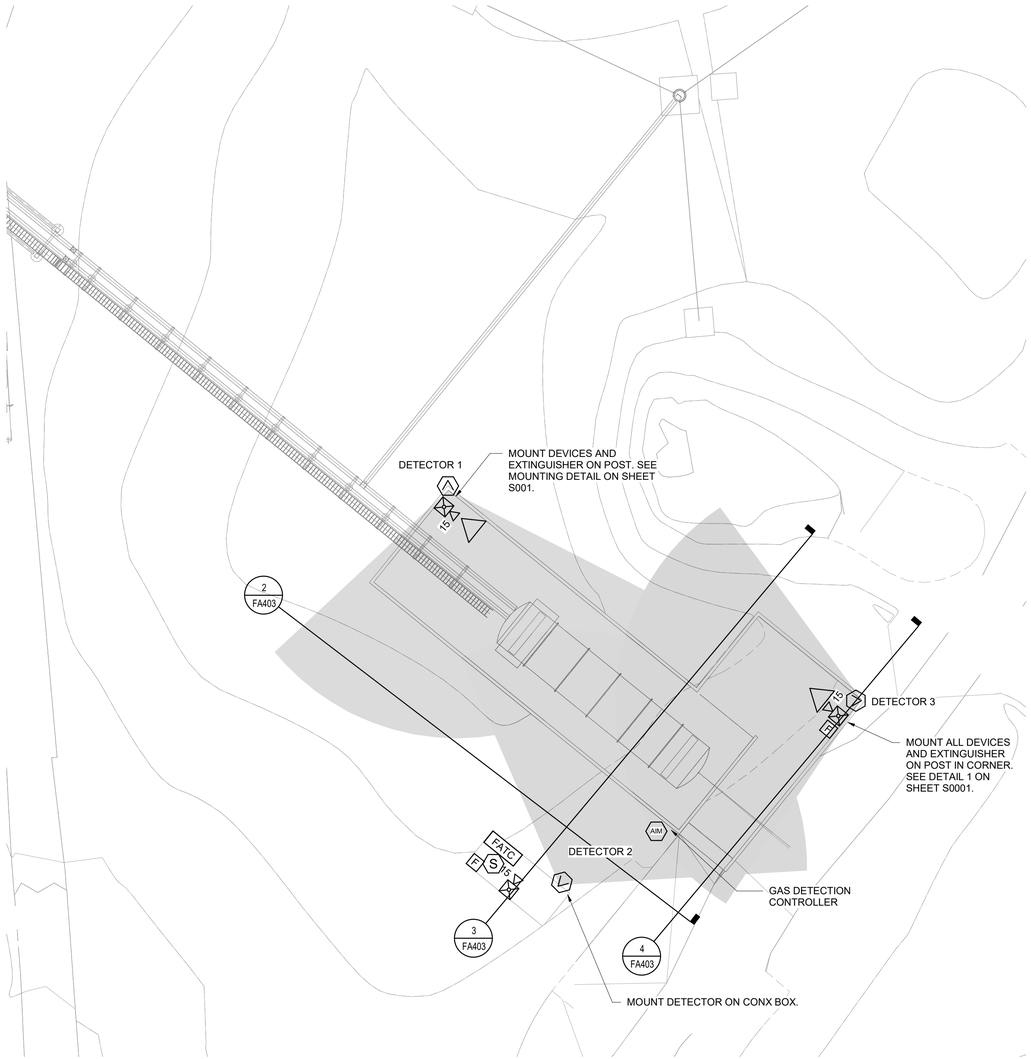
FIRE AND LEAK DETECTION

FIRE ALARM ENLARGED PLAN - PAD

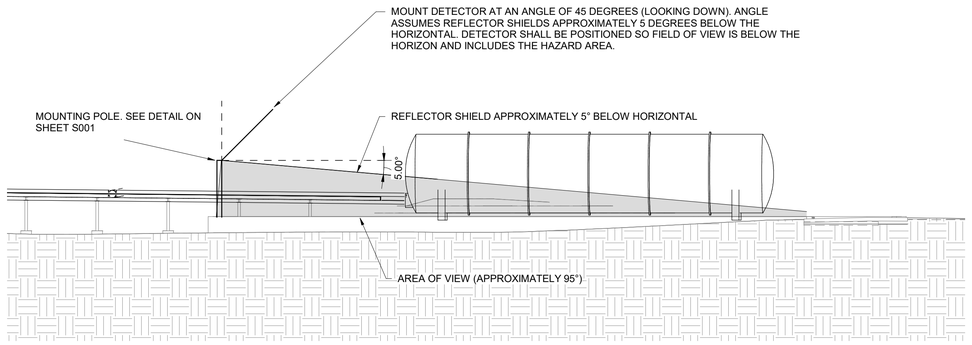
PLATE REFERENCE NUMBER
FA402

PROPRIETARY AND CONFIDENTIAL



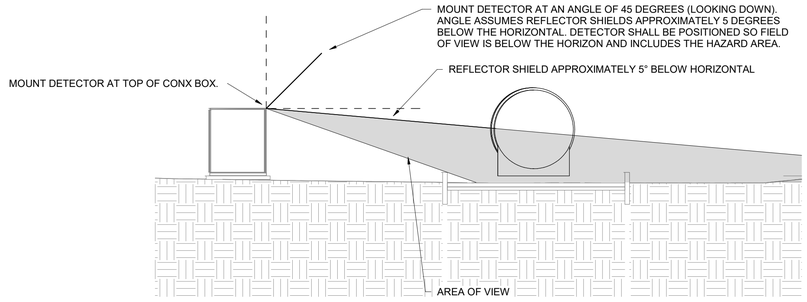
1 FIRE ALARM ENLARGED PLAN - LNG AREA

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



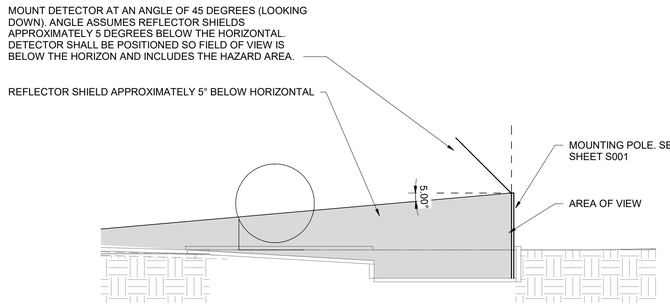
2 LNG AREA SECTION - DETECTOR 1

SCALE: 3/32" = 1'-0"



3 LNG AREA SECTION - DETECTOR 2

SCALE: 3/32" = 1'-0"



4 LNG AREA SECTION - DETECTOR 3

SCALE: 3/32" = 1'-0"

8 0 8 16

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

16 0 16 32

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

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE	BY

DESIGNED BY: AR
DRN BY: AR
CHK BY: SD
SUBMITTED BY: SD
DATE: 10/9/2020
FILE NAME: 22"X34"
DWG NUMBER: 22"X34"
SIZE: D 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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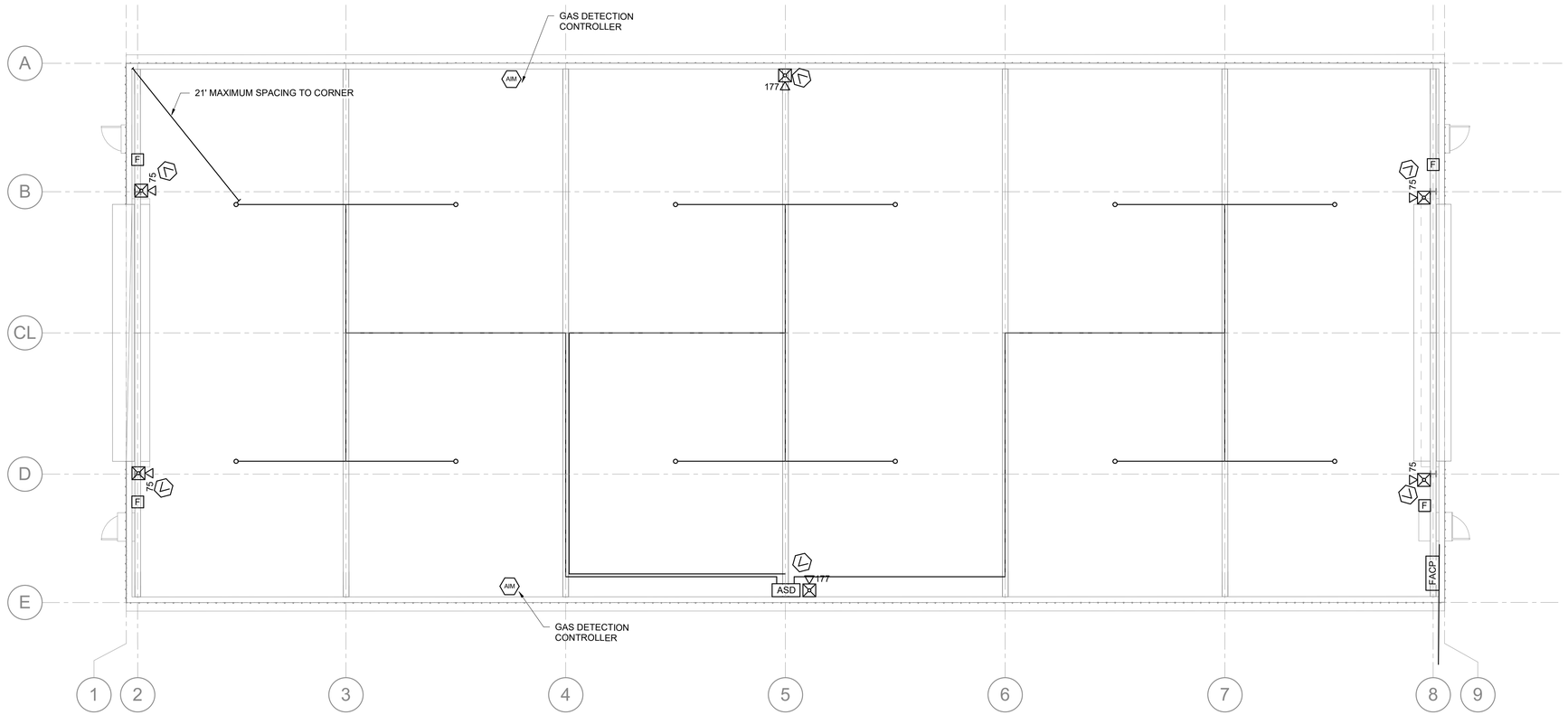
FIRE AND LEAK DETECTION

FIRE ALARM ENLARGED PLAN - LNG

PLATE REFERENCE NUMBER
FA403

PROPRIETARY AND CONFIDENTIAL



1 FIRE ALARM ENLARGED PLAN - HANGAR
SCALE: 1/8" = 1'-0"

INTERIM SUBMITTAL - NOT FOR CONSTRUCTION

BY	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: AR
DRN BY: AR
CKD BY: SD
SUBMITTED BY: SD
FILE NAME: 22"X34"
SIZE: D 22"X34"
DATE: 10/9/2020
DWG NUMBER: 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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FIRE AND LEAK DETECTION

FIRE ALARM ENLARGED PLAN - HANGAR

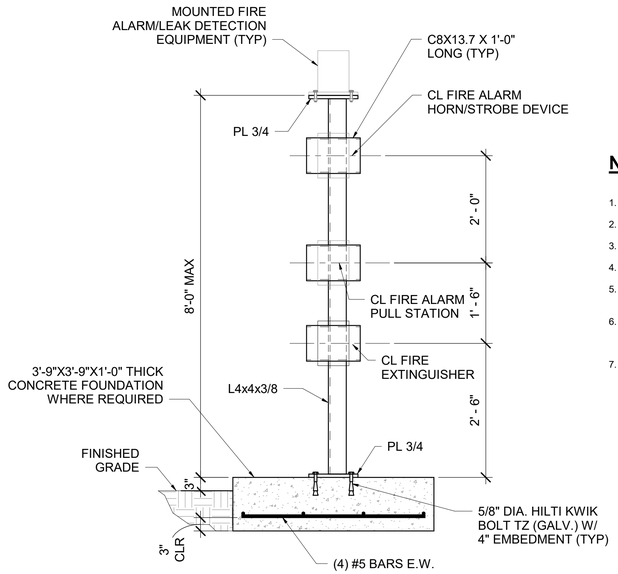
PLATE REFERENCE NUMBER
FA404

PROPRIETARY AND CONFIDENTIAL

POST-INSTALLED ANCHOR NOTES:

1. ALL "BASIS OF DESIGN" POST-INSTALLED ANCHORS ARE INDICATED ON THE DRAWINGS. "BASIS OF DESIGN" ANCHORS MAY BE SUBSTITUTED FOR ALTERNATIVE ANCHORS INDICATED IN TABLE WITH WRITTEN APPROVAL BY E.O.R.
2. "BASIS OF DESIGN" ANCHOR PRODUCTS ARE SPECIFICALLY REQUIRED TO MEET THE STRUCTURAL CALCULATIONS OF THE E.O.R. SUBSTITUTION FOR ANCHORS SHOWN ON PLAN REQUIRE EVALUATION AND WRITTEN APPROVAL BY ENGINEER OF RECORD. PROVIDE APPROPRIATE ALTERNATIVE ANCHOR WITH EQUIVALENT SHEAR AND TENSION CAPACITIES AFTER MODIFICATION DUE TO EMBEDMENT, SPACING AND EDGE DISTANCES. LOAD CAPACITIES SHALL BE BASED ON TESTS IN ACCORDANCE WITH ACI 355.2 OR ASTM E488.
3. ANCHOR LOCATION, TYPE, DIAMETER, EMBEDMENT, AND EDGE DISTANCES SHALL BE AS INDICATED ON DRAWINGS. ANCHOR EMBEDMENT DEPTH IS THE DISTANCE FROM THE SURFACE OF THE BASE MATERIAL TO THE INSTALLED END OF THE ANCHOR, AND IS MEASURED PRIOR TO APPLICATION OF AN INSTALLATION TORQUE (IF APPLICABLE).
4. ANCHOR PRODUCTS SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. POST-INSTALLED ANCHORS IN CONCRETE SHALL BE IN COMPLIANCE WITH IBC SECTION 1703.4 AND SHALL BE APPROVED BY ICC-ES FOR USE IN CRACKED AND UNCRACKED CONCRETE.
6. MECHANICAL ANCHORS SHALL NOT BE INSTALLED INTO CONCRETE THAT IS LESS THAN 7 DAYS OLD.
7. ANCHORS SHALL BE INSTALLED INTO A SUBSTRATE WITH A MINIMUM THICKNESS OF 1.5 TIMES THE ANCHOR EMBEDMENT DEPTH.

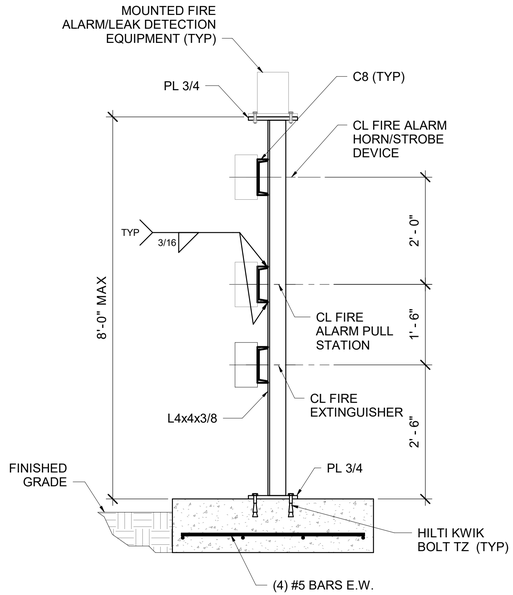
ANCHOR TYPE	BASIS OF DESIGN		ALTERNATIVES	
	MFR.	PRODUCT	MFR.	PRODUCT
SCREW ANCHOR	HILTI	KWIK HUS-EZ	DEWALT	SCREW-BOLT+
			SIMPSON	TITEN HD
			-	-
ADHESIVE ANCHOR	HILTI	HIT-HY 200 ADHESIVE W/ THREADED ROD OR REBAR	DEWALT	AC200+
			ITW RED HEAD	C6+
			SIMPSON	SET-XP
EXPANSION ANCHOR	HILTI	KWIK BOLT TZ	DEWALT	POWER-STUD+
			ITW RED HEAD	TRUBOLT+
			SIMPSON	STRONG-BOLT 2



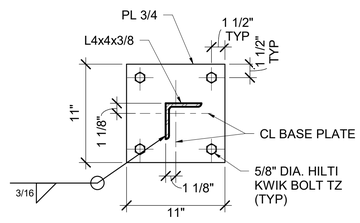
1 S-001 TYPICAL SUPT DET - FRONT
SCALE: N.T.S.

NOTES:

1. 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 4,000 PSI.
2. CONCRETE REINFORCEMENT SHALL BE DEFORMED TYPE MEETING ASTM A615, GR. 60.
3. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
4. ALL WELDING SHALL BE MADE USING E70XX LOW HYDROGEN ELECTRODES.
5. ALL STRUCTURAL STEEL MEMBERS, ANGLES, CHANNELS, ETC. SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AFTER FABRICATION.
6. FIRE EXTINGUISHER TO BE MOUNTED SO TOP OF EXTINGUISHER IS NO MORE THAN 3.5 FT ABOVE THE FLOOR AND THE BOTTOM IS NO LESS THAN 4 INCHES ABOVE THE FLOOR.
7. POST SHALL BE 8 FT TALL IN DETECTOR 1 LOCATION.



2 S-001 TYPICAL SUPT DET - SIDE
SCALE: N.T.S.



3 S-001 SUPT SECT
SCALE: N.T.S.

FINAL SUBMITTAL - ISSUED FOR CONSTRUCTION

REV	SYMBOL	DESCRIPTION	DATE	BY
A		HAZARDOUS PLAN UPDATES	02/25/2021	MAS

DESIGNED BY: EWJ	DATE: 04/21/2021
DWN BY: CDW	CHD BY: CDW
SUBMITTED BY: CDW	DWG NUMBER: 22"X34"
FILE NAME: 22"X34"	SHEET: OF
SIZE: D 22"X34"	PLOT DATE: 22"X34"

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MERRITT ISLAND, FL 32953
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Inglewood, CA 90301
FIRE AND LEAK DETECTION

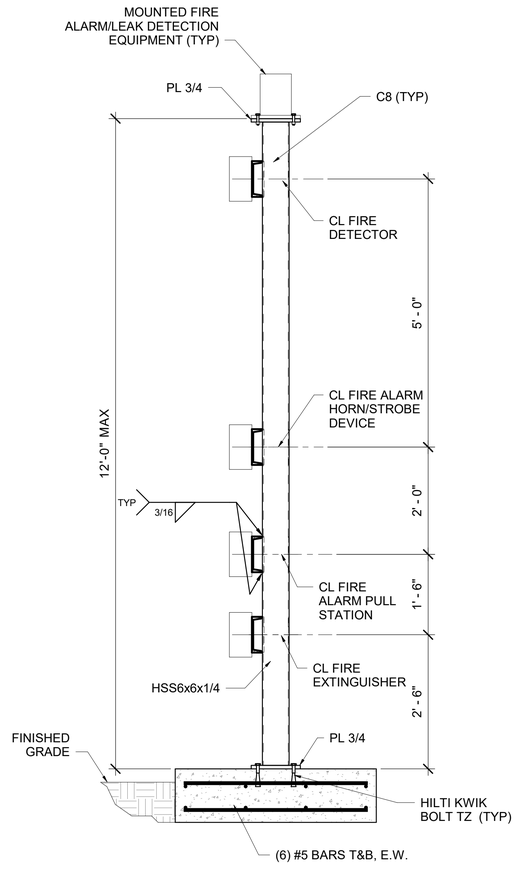
GENERAL STRUCTURAL NOTES AND DETAILS - 1

PLATE REFERENCE NUMBER
S001

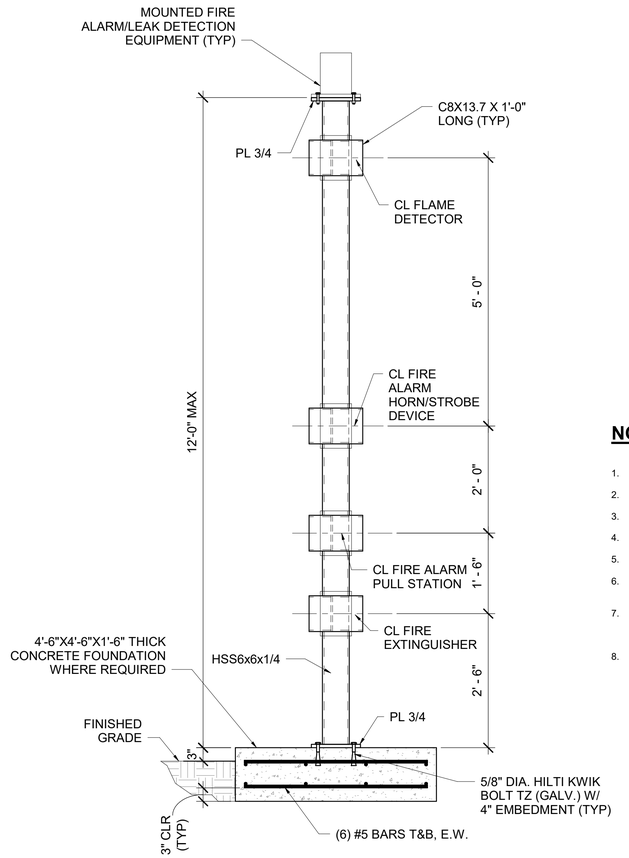
POST-INSTALLED ANCHOR NOTES:

1. ALL "BASIS OF DESIGN" POST-INSTALLED ANCHORS ARE INDICATED ON THE DRAWINGS. "BASIS OF DESIGN" ANCHORS MAY BE SUBSTITUTED FOR ALTERNATIVE ANCHORS INDICATED IN TABLE WITH WRITTEN APPROVAL BY E.O.R.
2. "BASIS OF DESIGN" ANCHOR PRODUCTS ARE SPECIFICALLY REQUIRED TO MEET THE STRUCTURAL CALCULATIONS OF THE E.O.R. SUBSTITUTION FOR ANCHORS SHOWN ON PLAN REQUIRE EVALUATION AND WRITTEN APPROVAL BY ENGINEER OF RECORD. PROVIDE APPROPRIATE ALTERNATIVE ANCHOR WITH EQUIVALENT SHEAR AND TENSION CAPACITIES AFTER MODIFICATION DUE TO EMBEDMENT, SPACING AND EDGE DISTANCES. LOAD CAPACITIES SHALL BE BASED ON TESTS IN ACCORDANCE WITH ACI 355.2 OR ASTM E488.
3. ANCHOR LOCATION, TYPE, DIAMETER, EMBEDMENT, AND EDGE DISTANCES SHALL BE AS INDICATED ON DRAWINGS. ANCHOR EMBEDMENT DEPTH IS THE DISTANCE FROM THE SURFACE OF THE BASE MATERIAL TO THE INSTALLED END OF THE ANCHOR, AND IS MEASURED PRIOR TO APPLICATION OF AN INSTALLATION TORQUE (IF APPLICABLE).
4. ANCHOR PRODUCTS SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. POST-INSTALLED ANCHORS IN CONCRETE SHALL BE IN COMPLIANCE WITH IBC SECTION 1703.4 AND SHALL BE APPROVED BY ICC-ES FOR USE IN CRACKED AND UNCRACKED CONCRETE.
6. MECHANICAL ANCHORS SHALL NOT BE INSTALLED INTO CONCRETE THAT IS LESS THAN 7 DAYS OLD.
7. ANCHORS SHALL BE INSTALLED INTO A SUBSTRATE WITH A MINIMUM THICKNESS OF 1.5 TIMES THE ANCHOR EMBEDMENT DEPTH.

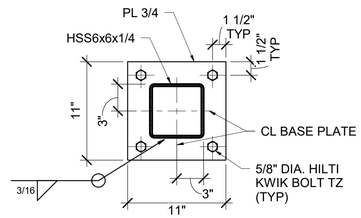
ANCHOR TYPE	BASIS OF DESIGN		ALTERNATIVES	
	MFR.	PRODUCT	MFR.	PRODUCT
SCREW ANCHOR	HILTI	KWIK HUS-EZ	DEWALT	SCREW-BOLT+
			SIMPSON	TITEN HD
			-	-
ADHESIVE ANCHOR	HILTI	HIT-HY 200 ADHESIVE W/ THREADED ROD OR REBAR	DEWALT	AC200+
			ITW RED HEAD	C6+
			SIMPSON	SET-XP
EXPANSION ANCHOR	HILTI	KWIK BOLT TZ	DEWALT	POWER-STUD+
			ITW RED HEAD	TRUBOLT+
			SIMPSON	STRONG-BOLT 2



5 S-002 TYPICAL SUPT DET - SIDE
SCALE: N.T.S.



4 S-002 TYPICAL SUPT DET - FRONT
SCALE: N.T.S.



6 S-002 SUPT SECT
SCALE: N.T.S.

NOTES:

1. 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 4,000 PSI.
2. CONCRETE REINFORCEMENT SHALL BE DEFORMED TYPE MEETING ASTM A615, GR. 60.
3. ALL STRUCTURAL STEEL ANGLES AND CHANNELS SHALL CONFORM TO ASTM A36.
4. ALL STRUCTURAL STEEL TUBES SHALL CONFORM TO ASTM A1085.
5. ALL WELDING SHALL BE MADE USING E70XX LOW HYDROGEN ELECTRODES.
6. ALL STRUCTURAL STEEL MEMBERS, ANGLES, CHANNELS, ETC. SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AFTER FABRICATION.
7. FIRE EXTINGUISHER TO BE MOUNTED SO TOP OF EXTINGUISHER IS NO MORE THAN 3.5 FT ABOVE THE FLOOR AND THE BOTTOM IS NO LESS THAN 4 INCHES ABOVE THE FLOOR.
8. POST SHALL BE 12 FT TALL IN DETECTOR 3 LOCATION.

FINAL SUBMITTAL - ISSUED FOR CONSTRUCTION

REV | A
SYMBOL
DESCRIPTION: HAZARDOUS PLAN UPDATES
DATE: 02/25/2021
BY: MAS

DESIGNED BY: EWJ
DWN BY: CDW
SUBMITTED BY: CDW
FILE NAME: 22"X34"
SIZE: D 22"X34"
DATE: 04/21/2021
CHD BY: CDW
DWG NUMBER: 22"X34"
SHEET: OF
PLOT DATE: 22"X34"

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