

HNL PASS AND ID UPGRADE

BUILDING CODE REQUIREMENTS

BASIS OF ANALYSIS: 2018 INTERNATIONAL BUILDING CODE
2018 NFPA 1, STATE OF HAWAII AMENDMENTS

A. OCCUPANCY GROUPS (SECTION 301):

DESCRIPTION	OCCUPANCY GROUP
MAIN CONFERENCE RM, COMPUTER LAB	ASSEMBLY A-3
OFFICES, CONF. ROOMS, BADGING AREA	BUSINESS B
SUPPLY ROOM	STORAGE S-2

B. TYPE OF CONSTRUCTION

IN ACCORDANCE WITH IBC, TABLE 503, THE TERMINAL 2 PARKING GARAGE WHERE THE PASS AND ID OFFICE IS LOCATED IS TYPE I-B NON-COMBUSTIBLE FIRE RATED CONSTRUCTION.

C. LOCATION ON PROPERTY:

	EXPOSURE	SEPARATION DISTANCE
NORTH	36' TO CAR STAGING AREA	36'
EAST	50' TO CAR PORT	50'
SOUTH	17' TO JOHN ROGERS BLVD	17'
WEST	43' TO BUILDING	21'

FIRE RESISTANCE OF EXTERIOR WALLS (IBC TABLE 602):

OCCUPANCY GROUP	SEPARATION	EXTERIOR WALLS
A	< 5'	1 HOUR
A	5' <= X < 10'	1 HOUR
A	10' <= X < 30'	1 HOUR
A	>= 30'	0 HOUR

D. ALLOWABLE AREA (IBC TABLE 506.2):

THE BASIC ALLOWABLE AREA BASED ON TYPE I-B CONSTRUCTION FOR B OCCUPANCY IS UNLIMITED.

ALLOWABLE AREA:

OCCUPANCY GROUP	ALLOWABLE AREA (SF)	BASIC PROPOSED AREA (SF)
A	UNLIMITED	8,031
B	UNLIMITED	8,031
S-2	237,000	174,901

E. HEIGHT AND NUMBER OF STORIES (TABLE 504.3 AND 504.4):

THE ANALYSIS WILL BE BASED ON NON-SEPARATED USE; THEREFORE, THE MOST RESTRICTIVE OCCUPANCY REQUIREMENTS SHALL APPLY. THE ALLOWABLE BUILDING HEIGHT AND NUMBER OF STORIES BASED ON TYPE I-B CONSTRUCTION IS AS FOLLOWS (IBC, TABLE 504.3):

OCCUPANCY	ALLOWED HEIGHT (FT)	ACTUAL HT (FT) NUM OF STORIES	ALLOWED NUM OF STORIES	ACTUAL NUM OF STORIES
A	180	60	12	5
B	180	60	11	5
S-2	180	60	12	5

THE BUILDING IS FIVE STORIES AND 60 FEET HIGH. THE BUILDING HEIGHT AND NUMBER OF STORIES COMPLIES.

F. FIRE RESISTIVE REQUIREMENTS (TABLE 601 AND 602):

ELEMENT	MATERIAL	RATING
STRUCTURAL FRAME	NON-COMBUSTIBLE	2 HR
EXTERIOR BEARING WALL	NON-COMBUSTIBLE	2 HR
INTERIOR BEARING WALL	NON-COMBUSTIBLE	2 HR
EXTERIOR NONBEARING WALL	NON-COMBUSTIBLE	1 HR
INTERIOR NONBEARING WALL	NON-COMBUSTIBLE	0 HR
FLOOR CONSTRUCTION	NON-COMBUSTIBLE	2 HR
ROOF CONSTRUCTION	NON-COMBUSTIBLE	1 HR
SHAFT ENCLOSURE	NON-COMBUSTIBLE	1 HR

G. FIRE RATED SEPARATIONS

- IBC OCCUPANCY SEPARATIONS: THE BUILDING ANALYSIS IS BASED ON NON-SEPARATED USE, THEREFORE NO OCCUPANCY SEPARATION WALLS ARE REQUIRED.
- FIRE WALLS: THE INTERIOR WALLS OF THE IT ROOM MUST BE 1-HOUR FIRE RATED CONSTRUCTION IN ACCORDANCE WITH NFPA 75, SECTION 6.1.3 AND 6.1.3.2. THE IT ROOM DOOR MUST BE A 45-MINUTE RATED DOOR PER NFPA 75, 6.1.3.4.
- FIRE BARRIERS: SHAFTS SHALL BE 1-HOUR RATED (713.4). CORRIDORS ARE NOT REQUIRED TO BE FIRE RATED (TABLE 1020.2).
- FIRE PARTITIONS: THERE ARE NO FIRE PARTITION REQUIREMENTS FOR THIS PROJECT.

H. INTERIOR FINISH (TABLE 803.13):

OCCUPANCY	RAMPS AND EXIT PASSAGEWAYS	CORRIDORS	ROOMS
BUSINESS	A	B	C

I. MEANS OF EGRESS:

- OCCUPANT LOAD (TABLE 1004.5):

OCCUPANT LOAD FACTORS:

ASSEMBLY	15 SF/PERSON NET
BUSINESS	150 SF/PERSON GROSS
CONCENTRATED BUSINESS	50 SF/PERSON GROSS
LOCKER ROOMS	50 SF/PERSON GROSS
UTILITY/STORAGE ROOMS	300 SF/PERSON GROSS
VOCATIONAL AREA	20 SF/PERSON NET

OCCUPANT LOAD CALCULATION:

BADGING AREA:	2,623 SF/50 =	53 PERSONS
SUPPLY ROOM:	175 SF/300 =	1 PERSON
OFFICE ROOMS:	175 SF/150 X 5 =	6 PERSONS
QUEUING:	521 SF/15 =	35 PERSONS
COMPUTER LAB:	2029 SF/15 =	135 PERSONS
SMALL CONFERENCE ROOM:	357 SF/15 =	24 PERSONS
MAIN CONFERENCE ROOM:	1023 SF/15 =	69 PERSONS
IT ROOM:	167 SF/300 =	1 PERSON
LOCKER ROOMS:	90 SF/50 X 2 =	4 PERSONS
WELLNESS ROOM:	117 SF/150 =	1 PERSON
SHOWER:	102 SF/150 =	1 PERSON
JANITOR ROOM:	55 SF/300 =	1 PERSON
SPACE ADJACENT TO JAN. RM:	148SF/150 =	1 PERSON
BREAK ROOM:	163 SF/15 =	11 PERSONS
EXISTING BATHROOMS:	161 SF/150 X 2 =	2 PERSONS
ELECTRICAL ROOM:	237 SF/300 =	1 PERSON

TOTAL: 353 PERSONS

- EGRESS WIDTH (SECTIONS 1005.3.1 & 1005.3.2):

EGRESS FACTORS:		
ALL OCCUPANCIES	HORIZONTAL 0.15 IN.	VERTICAL 0.20 IN.

EAST ACCESSIBLE EXIT

SINGLE DOOR - 34 IN/0.15 IN = 226 PERSONS

COMPUTER LAB EXIT

SINGLE DOOR - 34 IN/0.15 IN = 226 PERSONS

QUEUING ROOM EXIT

LESSOR OF:
DOUBLE DOORS - 68 IN / 0.15 IN = 453 PERSONS
STAIR - 60 IN/0.20 IN = 300 PERSONS

WEST EXIT

LESSOR OF:
SINGLE DOOR - 34 IN/0.15 IN = 226 PERSONS
STAIR - 48 IN/0.20 IN = 240 PERSONS

TOTAL = 978 PERSONS

THE ANTICIPATED OCCUPANT LOAD DOES NOT EXCEED THE EGRESS CAPACITY.

- ACCESSIBLE MEANS OF EGRESS, SECTION 1009

TWO ACCESSIBLE MEANS OF EGRESS ARE REQUIRED WHEN THERE IS MORE THAN ONE MEANS OF EGRESS REQUIRED IN THE FACILITY.

- NUMBER OF EXITS, TABLE 1006.2.1

ANY SPACE MUST HAVE TWO EXITS OR EXIT ACCESS WHEN EXCEEDING AN OCCUPANT LOAD OF 49 PERSONS.

- TRAVEL DISTANCE, TABLE 1017.2 AND 1006.2.1

OCCUPANCY	TRAVEL DISTANCE	COMMON PATH OF TRAVEL
A	250 FT	30 FT OR 75 FT

TABLE 1017.2 STATES THE MAXIMUM TRAVEL DISTANCE FOR SPRINKLERED A OCCUPANCIES TO BE 250 FEET. SECTION 1029.8 STATES THE MAXIMUM COMMON PATH OF TRAVEL DISTANCE IS 75 FEET FOR SPACES WITH OCCUPANT LOADS LESS THAN 50 PEOPLE AND 30 FEET FOR OCCUPANT LOADS GREATER THAN 50 PEOPLE.

SECTION 1020.4 LIMITS DEAD ENDS IN CORRIDORS TO 20 FEET.

- EXIT DISCHARGE, SECTION 1028

EXIT ENCLOSURES SHALL DISCHARGE DIRECTLY TO THE EXTERIOR OF THE BUILDING. 50 PERCENT OF THE NUMBER AND CAPACITY ARE PERMITTED TO DISCHARGE WITHIN THE LEVEL OF EXIT DISCHARGE.

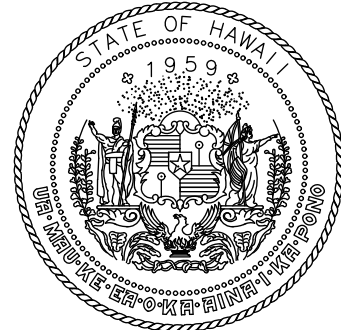
- ILLUMINATION AND EXIT SIGNS

SECTION 1008.1 REQUIRES THE MEANS OF EGRESS TO BE PROVIDED WITH LIGHTING.

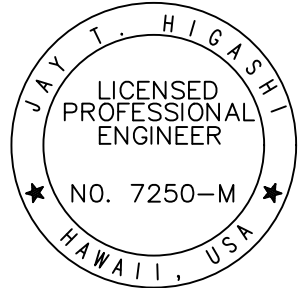
SECTION 1013.3 REQUIRES ILLUMINATED EXIT SIGNS. SECTION 1013.1 REQUIRES THAT NO POINT BE MORE THAN 100 FEET FROM AN EXIT SIGN. EXIT SIGNS ARE NOT REQUIRED IN AREAS WITH JUST ONE EXIT OR MAIN EXTERIOR EXIT DOORS WHICH ARE CLEARLY IDENTIFIABLE AS EXITS.

J. FIRE CODE REQUIREMENTS, STATE OF HAWAII AMENDMENTS (NFPA 1 2018)

- PROVIDE MULTI-PURPOSE PORTABLE FIRE EXTINGUISHERS THROUGHOUT THE PASS AND ID OFFICE (13.6.1.2).
 - FIRE EXTINGUISHERS MUST BE LOCATED ALONG PATHS OF EGRESS TRAVEL (13.6.3.1.3.1)
 - COOKING APPLIANCES SHALL HAVE A WET CHEMICAL FIRE EXTINGUISHER LISTED FOR CLASS K FIRES (13.6.3.6.3). THE COOKING RANGE IN THE BREAK ROOM CALLS FOR A CLASS K RATED FIRE EXTINGUISHER IN THE ROOM.
- FIRE DEPARTMENT ACCESS (18.2)
 - THE FIRE DEPARTMENT ACCESS ROAD MUST BE WITHIN 50 FEET OF ONE EXTERIOR DOOR WHICH ALLOWS ACCESS TO THE INSIDE OF THE BUILDING, 18.2.3.2.1.
 - ANY PORTION OF THE BUILDING MUST BE WITHIN 150 FEET OF THE ACCESS ROAD, 18.2.3.2.2.
 - THE FIRE ACCESS ROADS MUST HAVE A WIDTH OF AT LEAST 20 FEET, 18.2.3.5.1.1.
- FIRE HYDRANTS (18.5)
 - THE MAXIMUM DISTANCE TO A FIRE HYDRANT TO THE CLOSEST POINT ON THE BUILDING CANNOT EXCEED 400 FEET, 18.5.3.



Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII



J. T. Higashi
04/30/24
/ Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
JTH	AM	JTH	JTH

NO.	DATE	REVISIONS
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DATE

PROJECT TITLE :

NEW PASS AND ID OFFICE

AT
DANIEL K. INOUE INTERNATIONAL AIRPORT
HONOLULU, HAWAII

PROJECT NO.:

C01322-63

SHEET TITLE:

BUILDING CODE
SUMMARY

DATE :	DWG. NO. R001
12/21/22	
SHEET :	
75 OF 100 SHEETS	