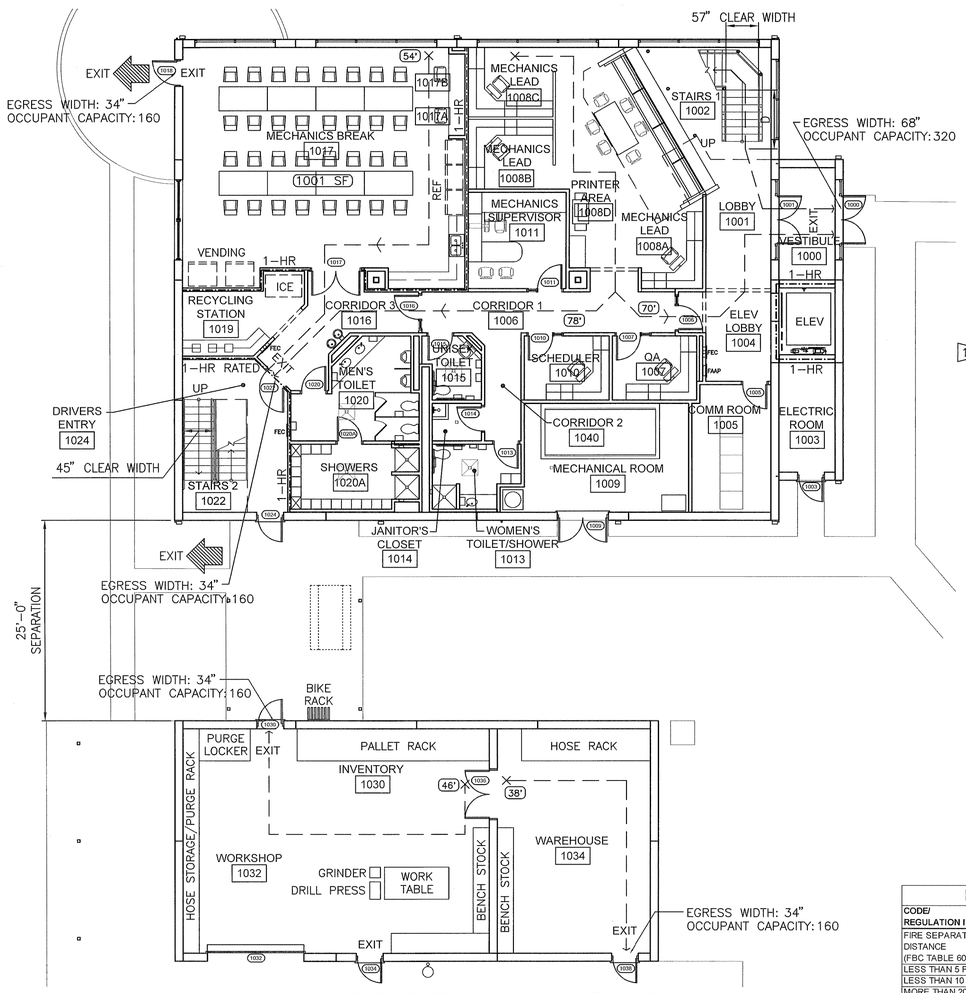
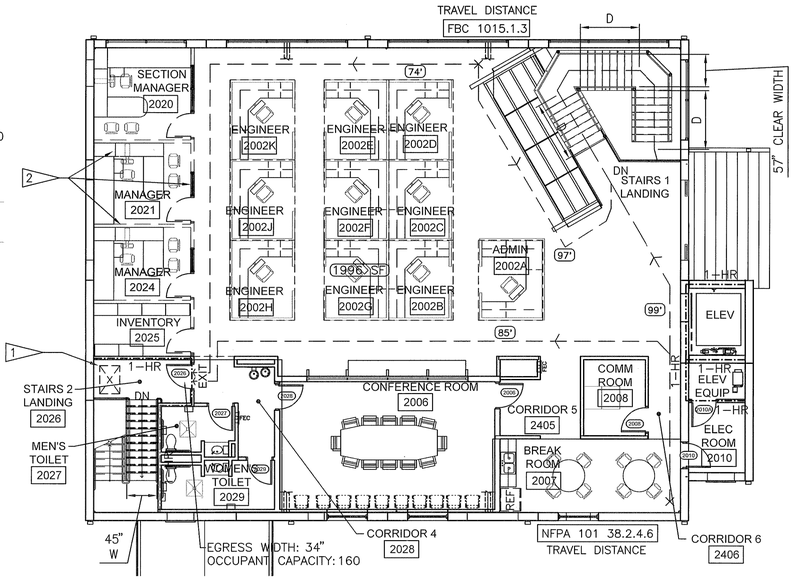
NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.



LIFE SAFETY PLAN - 1st FLOOR

1/8" = 1'-0"



LIFE SAFETY PLAN - 2nd FLOOR

1/8" = 1'-0"

LIFE SAFETY NOTES:

1. REFER TO GENERAL BUILDING LIMITATIONS AND CALCULATIONS FOR ADDITIONAL INFORMATION.
2. EQUIPMENT IS SHOWN FOR REFERENCE IN REVIEWING EXIT AISLE WIDTH. REFER TO ELECTRICAL DRAWINGS FOR POWER AND COMMUNICATIONS EQUIPMENT, MECHANICAL DRAWINGS FOR HVAC EQUIPMENT.
3. A MINIMUM CLEAR AND LEVEL AREA OF 60" x 48" IS REQUIRED FOR ACCESS APPROACH TO ENTRY.
4. ACCESS DOORS FOR INGRESS/ENTRANCE SHALL BE PROVIDED WITH A MINIMUM OF 18" CLEARANCE AT THE LATCH SIDE FROM THE PULL FACE OF THE DOOR.
5. ACCESS DOORS FOR EGRESS/EXIT SHALL BE PROVIDED WITH A MINIMUM OF 12" CLEARANCE AT THE LATCH SIDE FROM THE PUSH FACE OF THE DOOR.
6. MAXIMUM 1/2" VERTICAL HEIGHT AT THRESHOLD TRANSITION, TYPICAL.
7. FURNISHINGS AND APPLIANCES ARE SHOWN FOR REFERENCE IN REVIEWING CIRCULATION AND OCCUPANT LOAD. FURNITURE IS NOT IN CONTRACT.
8. REFER TO ELECTRICAL DRAWINGS AND REFLECTED CEILING PLAN FOR LOCATION OF EXIT LIGHTS AND OTHER DEVICES.

FLAG NOTES - LIFE SAFETY:

1. AREA OF REFUGE
2. MODULAR OR DEMOUNTABLE PARTITIONS ARE SHOWN FOR REFERENCE IN REVIEWING CIRCULATION AND OCCUPANT LOAD. THESE PARTITIONS ARE PART OF FURNISHINGS. FURNITURE NOT IN CONTRACT.

LIFE SAFETY KEY

SYMBOL	DESCRIPTION
	PRIMARY BUILDING EXIT
D	DISTANCE MEASURED IN PLANE PARALLEL TO TREAD NOSINGS
W	CLEAR WIDTH MEASURED BETWEEN HANDRAILS
	EGRESS PATH TO EXIT FROM REMOTE LOCATION
75'	EGRESS PATH DISTANCE IN FEET FROM REMOTE LOCATION TO EXIT
	1 HOUR FIRE-RATED ASSEMBLY
EXIT	INDICATES REQUIRED EXIT, FOR CODE REVIEW
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FEC	FIRE EXTINGUISHER CABINET

EGRESS CAPACITY

EXIT AND MEANS OF EGRESS WIDTH (FBC TABLE 1004)

FLOOR	OCCUPANT LOAD	REQUIRED STAIRWAY WIDTH (8 mm | 0.3 in PER OCCUPANT)	DESIGN CAPACITY STAIRWAY WIDTH	REQUIRED DOOR WIDTH (5 mm | 0.2 in PER OCCUPANT)	EXIT DOOR CAPACITY
2	40	40 x .30 = 12"; 36" MIN. REQUIRED	45"	40 x .20 = 8"; 32" MIN. REQUIRED	0 DOORS @ 72 in = 0 in 1 DOORS @ 36 in = 34 in TOTAL 34 in
1	138	NA	NA	138 x .20 = 28"; 32" MIN. REQUIRED	1 DOORS @ 68 in = 68 in 2 DOORS @ 34 in = 68 in TOTAL 136 in
1	6	NA	NA	6 x .20 = 2"; 32" MIN. REQUIRED	0 DOORS @ 68 in = 0 in 3 DOORS @ 34 in = 102 in TOTAL 102 in

GENERAL BUILDING LIMITATIONS

CODE/ REGULATION ITEMS	2004 FLORIDA BUILDING CODE
OCCUPANCY:	BUSINESS GROUP 'B' (FBC 304.1) GROUP 'F' FACTORY/INDUSTRIAL
CONSTRUCTION TYPE:	TYPE IIB, NONCOMBUSTIBLE, UNPROTECTED (FBC 601)
MAXIMUM ALLOWABLE HEIGHT:	4 STORIES (FBC TABLE 503)
ACTUAL HEIGHT:	2- STORY, +/-36'-0" ABOVE FINISH FLOOR / GRADE
MAXIMUM ALLOWABLE BUILDING AREA:	23,000 SF PER FLOOR, ADDITIONAL AREA POSSIBLE WITH MODIFICATION FOR SPRINKLER AND FRONTAGE (TABLE 500)
ACTUAL AREAS:	BUSINESS OCCUPANCY GROSS FLOOR AREA, 1ST 4,820 SF FLOOR AREA, 2ND 4,110 SF GROSS FLOOR AREA (MAINT.) 1,800 SF
AUTOMATIC FIRE SPRINKLER.	BOTH BUILDINGS ARE PROTECTED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH FBC 903.3.1.1
FIRE ALARM:	FIRE ALARM SHALL BE INSTALLED IN ACCORDANCE WITH LSC SECTION 7-6

OCCUPANT LOAD

MINIMUM OCCUPANT LOAD FBC TABLE 1003.1
(NOTE: NUMBERS SHOWN HERE ARE PER AREA CALCULATIONS AS GOVERNED BY CODE. ACTUAL COUNT BY PROGRAM MAY BE LOWER.)

OCCUPANCY	ROOMS	GROSS FLOOR AREA	FLR AREA PER OCCUPANT	OCCUPANT LOAD
BUSINESS (B) 1ST FL	ALL ROOMS OTHER THAN HAZARDOUS	2,864 SF	100 SF/OCCUPANT	29
ASSEMBLY, A-3 1ST FL	DRIVERS BREAK ROOM	1,001 SF	15 SF/OCCUPANT	67
BUSINESS (B) 1ST FL	MECH / EQUIP	955 SF	300 SF/OCCUPANT	3
1ST FLOOR TOTAL:		4,820 SF		99
BUSINESS (B) 2ND FL	ASSEMBLY, CONFERENCE	557 SF	100 SF/OCCUPANT	6
BUSINESS (B) 2ND FL	ALL ROOMS OTHER THAN HAZARDOUS	3,353 SF	100 SF/OCCUPANT	34
BUSINESS (B) 2ND FL	MECH / EQUIP	200 SF	300 SF/OCCUPANT	1
2ND FLOOR TOTAL:		4,110 SF		40
ADMINISTRATION BUILDING TOTAL:		8,930 SF		138

OCCUPANCY	ROOMS	GROSS FLOOR AREA	FLR AREA PER OCCUPANT	OCCUPANT LOAD
GROUP F-3 AREAS	MAINTENANCE AREA + MECH/ ELECTRICAL EQUIP ROOM	1,800 SF	300 SF	6

MEANS OF EGRESS

CODE/ REGULATION ITEMS	2004 FLORIDA BUILDING CODE
MAX TRAVEL DISTANCE:	GROUP B ANY POINT TO EXIT: 300 FT (92 M) WITH SPRINKLER SYSTEM (FBC TABLE 1015.1) GROUP F-3 ANY POINT TO EXIT: 400 FT (123 M) WITH SPRINKLER SYSTEM (FBC TABLE 1015.1)
MAX DEAD END CORRIDOR:	50 FT (15 M) (FBC 1016.3 - EXCEPTION 2)
TWO MEANS OF EGRESS REQUIRED	FBC TABLE 1014.1 OCCUPANT LOAD > 50 (OFFICE AND MAINTENANCE AREAS)
UNENCLOSED STAIR	FBC TABLE 1015.1.3 TOTAL TRAVEL DISTANCE <300 FT
SINGLE EXIT PERMITTED	NFPA 101 38.2.4.6, WHERE TOTAL TRAVEL TO THE OUTSIDE DOES NOT EXCEED 30 M (100 FT)

INTERIOR FINISHES

MINIMUM INTERIOR FINISH CLASSIFICATION (FBC TABLE 803.5)

	GROUP B	GROUP F-3
EXITS	CLASS A	CLASS B; CLASS A FOR NASA
EXIT ACCESS	CLASS B; CLASS A FOR NASA	CLASS B; CLASS A FOR NASA

PLUMBING FIXTURES

MINIMUM NUMBER OF PLUMBING FACILITIES (FBC TABLE 403.1)

FLOOR	OCCUPANT LOAD	WATER CLOSETS MEN	WATER CLOSETS WOMEN	LAVS	BATHTUB/ SHOWERS	DRINKING FOUNTAINS
1	105	1 PER 25 FOR THE FIRST 50, 1 PER 50 FOR REMAINDER		1 PER 40 FOR THE FIRST 50, 1 PER 80 FOR REMAINDER	-	1 PER 100
TOTAL REQUIRED:		4		3	-	1.046
PROVIDED:		4 WATER CLOSETS, 2 URINALS		4	3	1 HI / LOW
2	40	1 PER 25 FOR THE FIRST 50, 1 PER 50 FOR REMAINDER		1 PER 40 FOR THE FIRST 50, 1 PER 80 FOR REMAINDER	-	1 PER 100
TOTAL REQUIRED:		2		1	-	0.397666667
PROVIDED:		2 WATER CLOSETS, 0 URINALS		2	0	1 HI / LOW

1 SERVICE SINK PER FLOOR REQUIRED; 1 PROVIDED

FBC PLUMBING VOLUME 403.4 – LOCATION OF EMPLOYEE TOILET FACILITIES IN OCCUPANCIES OTHER THAN ASSEMBLY OR MERCANTILE.

EXCEPTION: FACILITIES THAT ARE REQUIRED FOR EMPLOYEES IN STORAGE STRUCTURES OR KIOSKS, AND ARE LOCATED IN ADJACENT STRUCTURES UNDER THE SAME OWNERSHIP, LEASE OR CONTROL, SHALL BE A MAXIMUM TRAVEL DISTANCE OF 500 FEET FROM THE EMPLOYEES' WORKING AREAS.

FIRE SEPARATION DISTANCE

CODE/ REGULATION ITEMS	2004 FLORIDA BUILDING CODE	
FIRE SEPARATION DISTANCE (FBC TABLE 602)	TYPE OF CONSTRUCTION	RATING (HRS)
LESS THAN 5 FT	II-B	1
LESS THAN 10 FT	II-B	1 *
MORE THAN 20 FT	II-B	0
EXTERIOR WALLS	1 HR FIRE RESISTIVE >10 FT (FBC TABLE 602) 0 HR FIRE RESISTIVE >30 FT (FBC TABLE 602)	

* FBC 503-1.3 BUILDINGS IN SAME LOT CONSTRUCTED OF THE SAME CONSTRUCTION TYPE: TYPE II B = 0 HOURS

ACTUAL SEPARATION > 10 FT. THEREFORE RATING FOR EXTERIOR WALLS = 0

EXTERIOR OPENINGS	UNLIMITED AREA	

FIRE RESISTANCE RATINGS

CODE/ REGULATION ITEMS	2004 FLORIDA BUILDING CODE
COLUMNS	SUPPORTING ROOF ONLY - 0 HR (FBC TABLE 601)
BEAMS, GIRDERS, TRUSSES	CONNECTED TO COLUMNS & BRACING: SUPPORTING ROOF ONLY - 0 HR (FBC TABLE 601)
BEARING WALLS EXTERIOR INTERIOR	 0 HR (FBC TABLE 601) 0 HR (FBC TABLE 601)
FLOOR CONSTRUCTION:	0 HRS (FBC TABLE 601)
ROOF CONSTRUCTION: INCLUDING DECK	0 HRS (FBC TABLE 601)

FIRE RESISTANT SEPARATIONS

CODE/ REGULATION ITEMS	2004 FLORIDA BUILDING CODE
EXIT ACCESS CORRIDOR	N/A; 0 HR CORRIDOR FIRE RESISTIVE (FBC 1016.1)
VERTICAL EXIT ENCLOSURE	1 HR WHERE CONNECTING LESS THAN FOUR STORIES (FBC 1019.1)
ELEVATOR HOISTWAY	1 HR WHERE CONNECTING LESS THAN FOUR STORIES (FBC 707.4)
ELEVATOR MACHINE ROOM	1 HR NOT LESS THAN RATING OF THE HOISTWAY (FBC 3006.4)

OCCUPANCY SEPARATIONS

FIRST FLOOR: BUSINESS (B) FROM ASSEMBLY (A-3); FACTORY/INDUSTRIAL (F-3)

REQUIREMENT	ACTUAL	SEPARATION REQUIREMENT
FBC 302.2 OCCUPANCY IS AN ACCESSORY IF LESS THAN 10% OF FLOOR	21%	SEPARATION REQUIRED
FBC 302.2.1 NO SEPARATION REQUIRED IF ASSEMBLY AREA < 750 SF	1,001 SF	SEPARATION REQUIRED
FBC 303.1 A-3 OCCUPANCY IS ACCESSORY TO B IF OCCUPANCY LOAD < 50	67	SEPARATION REQUIRED
FBC TABLE 302.3.2 REQUIRED SEPARATION OF OCCUPANCIES	GROUP B (BUSINESS)	GROUP F-3 (FACTORY/INDUSTRIAL)
	2 HRS	2 HRS

CHARACTERISTICS OF ROOF ASSEMBLY

THERMAL PROPERTIES OF MATERIALS

COMPONENT	X	PERM	R-VALUE
OUTSIDE AIR	WINTER - 15MPH, R-VALUE = 0.17 SUMMER - 7.5MPH, R-VALUE = 0.25		0.25
STANDING SEAM MTL	26GA ALUM OR COATED STEEL, e =0.12		0.00
VAPOR RETARDER	ICE-WATER SHIELD	.05 Perm	0.06
PROTECTION BOARD	5/8" COMPOSITE GYPSUM	<2 Perm	0.67
INSULATION (BOARD)	6" POLYISOCYANURATE; 5.56 per INCH	<1 Perm	33.36
DECKING	METAL DECK, 12" CAVITY AIR SPACE		0.00
FRAMING	GIRDERS, BOWED		0.00
INSIDE AIR	(STILL AIR)		0.68
TOTAL R-VALUE			35.02

CHARACTERISTICS OF WALL ASSEMBLY

THERMAL PROPERTIES OF MATERIALS

COMPONENT	DESCRIPTION	PERM	R-VALUE
OUTSIDE AIR	WINTER - 15MPH, R-VALUE = 0.17 SUMMER - 7.5MPH, R-VALUE = 0.25		0.25
CLADDING	3" CONCRETE WYTHE		0.68
INSULATION (BOARD)	2" POLYISOCYANURATE; 6.50 per INCH		13.00
STRUCTURE	7-1/4" CONCRETE WYTHE		1.64
	VARIATION, ADD:		
3/4" AIR SPACE	50F; 10 deg F		1.01
FRAMING	3-5/8" METAL STUD, 24" O.C.		0.00
FINISH	5/8" GYPSUM WALL BOARD		0.56
INSIDE AIR	(STILL AIR)		0.68
TOTAL R-VALUE			17.82

DESIGN VALUE OF ENVELOPE COMPONENTS

THERMAL PROPERTIES OF MATERIALS

COMPONENT	GLASS / GLAZING	SC	U-VALUE
N - FIXED WINDOWS	1/4"+1/4"+1/4" LAM. MONO. (ML-3)	0.47	0.88
N - FIXED WINDOWS	1/4"+1/2"2/PVB+1/4" INSULATED UNIT	0.45	0.28
E - FIXED WINDOWS	1/4"+1/4"+1/4" LAM.MONO. (ML-3)	0.47	0.88
E - FIXED WINDOWS	1/4"+1/2"2/PVB+1/4" INSULATED UNIT	0.45	0.28
E - STOREFRONT	1/4"+PVB+1/4", LAMINATED MONOLITHIC		1.00
W - FIXED WINDOWS	1/4"+1/2"2/PVB+1/4" INSULATED UNIT	0.45	0.28
S - FIXED WINDOWS	1/4"+1/2"2/PVB+1/4" INSULATED UNIT	0.45	0.28

GRAPHIC SCALE
0 2 4 8 16
SCALE IN FEET
1/8" = 1'-0"

SYM	ZONE	DESCRIPTION	DATE	APPROVED
A		GENERAL REVISIONS	12/18/08	

REVISIONS

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CHECKED J. SNEARLY	9/23/08
DESIGNED A. SCHULTZ	9/23/08
ALICE SCHULTZ SUBMITTED	9/23/08
APPROVED STEPHEN M. SZABO	DATE 9/23/08

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

CONSTRUCT REPLACEMENT PROPELLANTS NORTH ADMINISTRATION & MAINTENANCE FACILITY

LIFE SAFETY PLAN

A1

SIZE	DWG. NO.	REV
F	79K38370	A

TITLE | PROJ. NO. 98409 | SHEET 25

KSC FORM 1-11 (3/76)(C/G 3/94)

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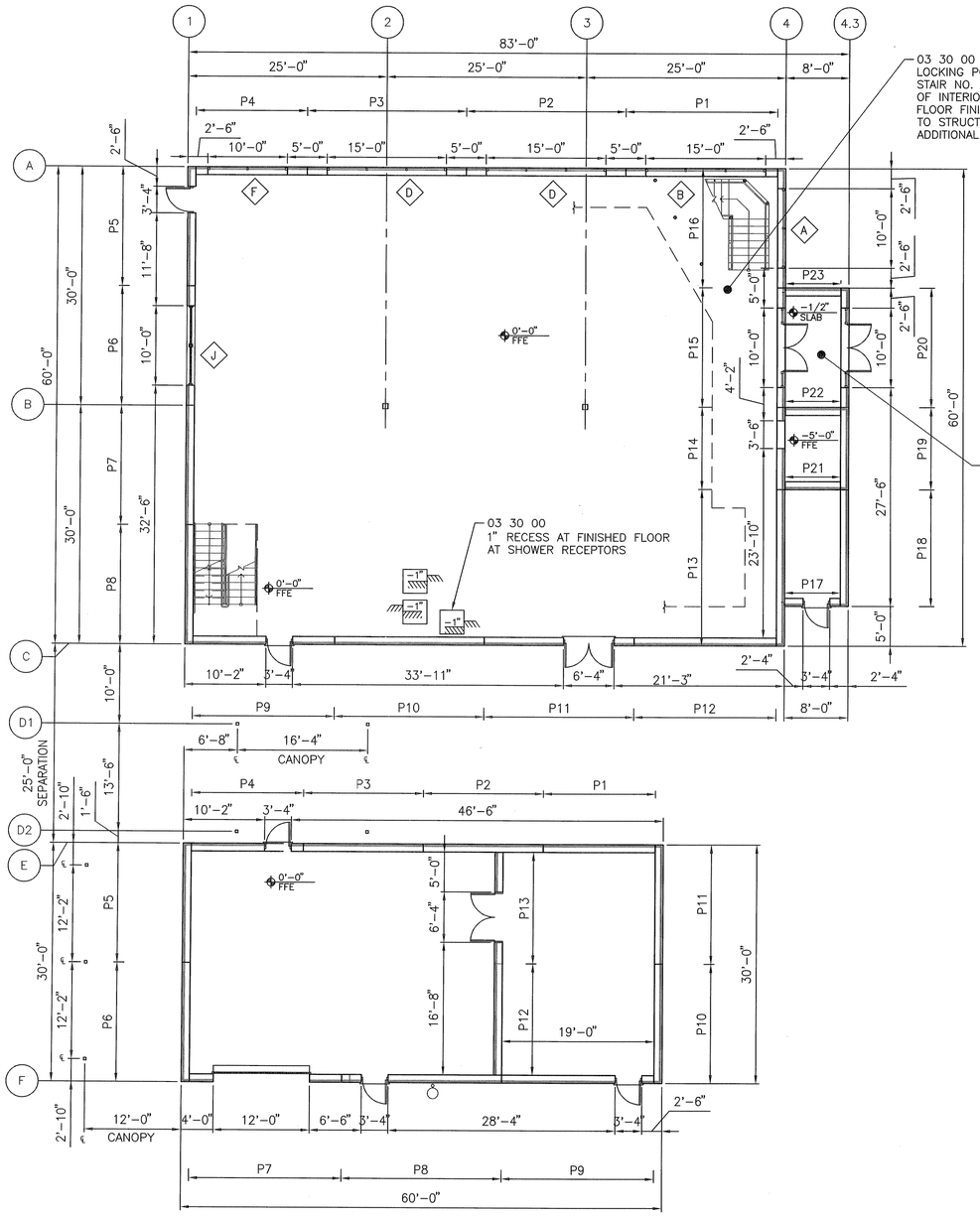
GENERAL NOTES

1. FFE=0.0 IS A REFERENCE ELEVATION. REFER TO CIVIL DRAWINGS FOR CORRESPONDING ELEVATION TIED TO NAVD.
2. REFER TO BUILDING ELEVATIONS FOR ADDITIONAL OPENINGS IN CONCRETE TILT WALLS.
3. REFER TO FLOOR PLANS A3 AND A4 FOR INTERIOR WALL DIMENSIONS.
4. REFER TO DOOR SCHEDULE AND DOOR AND OPENING DETAILS FOR UNIT SIZES.
5. REFER TO STRUCTURAL DRAWINGS FOR TILT-PANEL SIZES, AND OPENING LOCATIONS, TYPICAL.

REFERENCE KEYNOTES

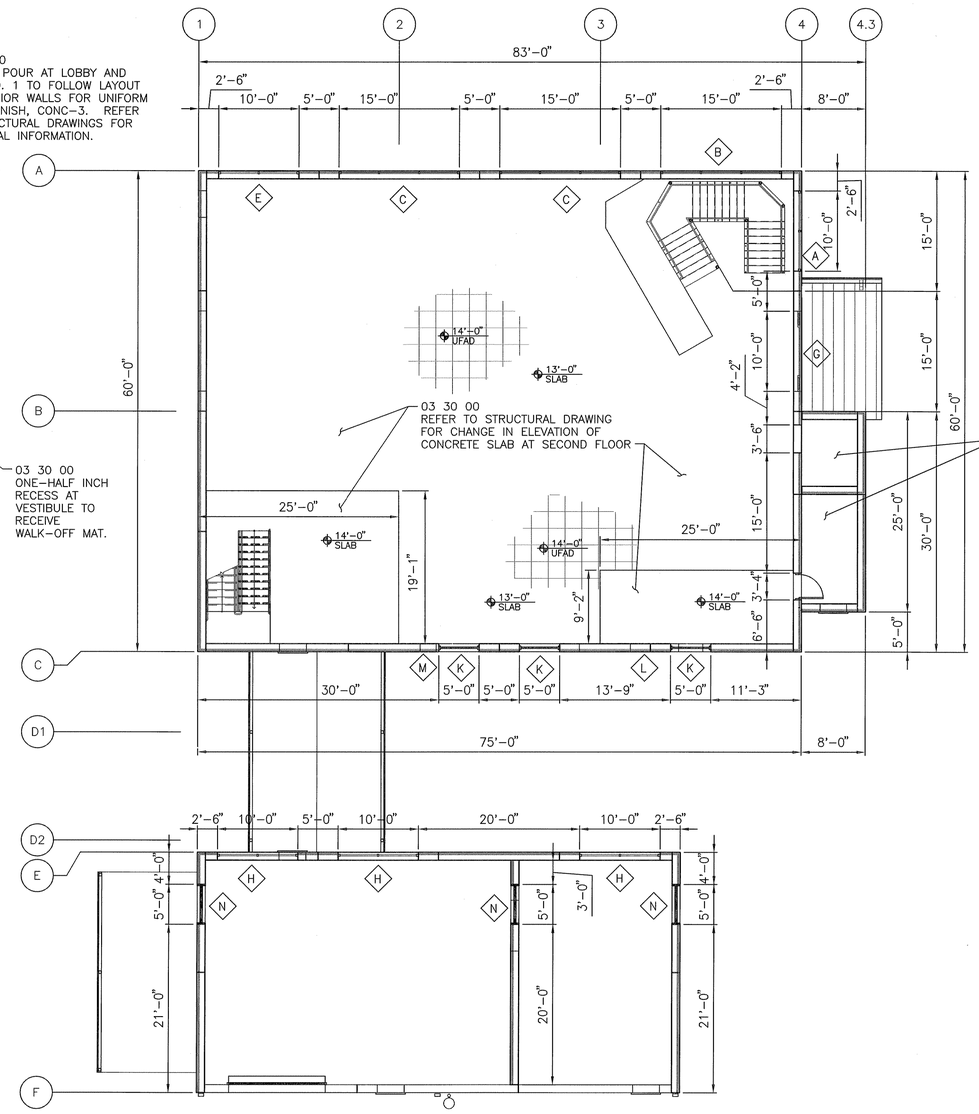
DIVISION 3 - CONCRETE

03 30 00 CAST -IN-PLACE CONCRETE



DIMENSIONED 1st FLOOR PLAN

1/8" = 1'-0"



DIMENSIONED 2nd FLOOR PLAN

1/8" = 1'-0"

ARCHITECTURAL SYMBOLS

TO BEAM 100'-0"	VERTICAL ELEVATION DATA
1178	ROOM NUMBER
1035	DOOR NUMBER
1	OPENINGS
P1	TILT PANEL, SEE STRUCTURAL SHEETS S7-S10
1	WALL TYPE

GRAPHIC SCALE

0 2 4 8 16

SCALE IN FEET
1/8" = 1'-0"

SYM	ZONE	DESCRIPTION	DATE	APPROVED
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DIMENSIONED FLOOR PLAN

SIZE	DWG. NO.	REV
F	79K38370	A

TITLE | PROJ. NO. 9B409 | SHEET 26

A2

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