

Veterans Health Care System of the Ozarks

Renovate Leroy Pond Army Reserve Center for Mental Health Residential Rehabilitation Treatment/ Police Training

Fayetteville, AR

VA PROJECT NO. 564-341: 100% CONSTRUCTION DOCUMENTS
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DESIGN DATA

TOTAL BUILDING AREAS

INSTITUTIONAL I-1	
AREA "A" PATIENT ROOMS:	8,870 GSF
AREA "A" MECHANICAL:	524 GSF
AREA "B" INPATIENT THERAPY:	3,374 GSF
INSTITUTIONAL TOTAL:	13,127 GSF

BUSINESS:	
AREA "B" CLINIC:	3,276 GSF
AREA "B" MECHANICAL ADDITION:	291 GSF
AREA "B" LINK ADDITION:	375 GSF
AREA "C" VESTIBULE:	138 GSF
AREA "C" OFFICES:	4,099 GSF
AREA "C" POLICE:	1,046 GSF

BUSINESS TOTAL:	9,225 GSF
GRAND TOTAL BUILDING AREA:	22,352 GSF

OCCUPANT LOAD CALCULATIONS

INSTITUTIONAL I-1 OCCUPANCY:	4,480 GSF/120	=	38 OCCUPANTS
(120 GSF/OCCUPANT)			
BUSINESS USE:	2,469 GSF/100	=	25 OCCUPANTS
(100 GSF/OCCUPANT)			
ASSEMBLY USE:	2,718 GSF/15	=	181 OCCUPANTS
(15 NSF/OCCUPANT)			
STORAGE / MECH. USE:	2,531 GSF/300	=	9 OCCUPANTS
(300 GSF/OCCUPANT)			
GRAND TOTAL BUILDING OCCUPANT LOAD:		=	253 OCCUPANTS

APPLICABLE CODES

2006	INTERNATIONAL BUILDING CODE (IBC)
2006	INTERNATIONAL MECHANICAL CODE (IMC)
2006	INTERNATIONAL PLUMBING CODE (IPC)
2007	ANSI/ASHRAE/IESNA 90.1
2000	ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
2006	NFPA #13 STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS
2006	NFPA #101 LIFE SAFETY CODE
2010	VA DESIGN GUIDE FOR MENTAL HEALTH RESIDENTIAL REHABILITATION TREATMENT FACILITIES

OCCUPANCY GROUPS - IBC SECTIONS 302-312

BUILDING OCCUPANCY	
INSTITUTIONAL - GROUP I-1 (SECTION 308.2)	
BUSINESS - GROUP B (SECTION 304.1)	

ACCESSORY OCCUPANCY - SECTION 303.1

EXCEPTION 1: ROOM AREA <750 NSF OR < 50 OCCUPANTS ARE NOT ASSEMBLY OCCUPANCIES (BUSINESS OR SAME OCCUPANCY)	
EXCEPTION 2: ROOM AREA <750 NSF ARE ACCESSORY OCCUPANCIES (SEPARATION NOT REQ. PER IBC TABLE 508.3.1)	

ACCESSORY OCCUPANCY - SECTION 508.3.1

STORAGE ROOMS	TYPES S-1 (SECTION 311)
INCIDENTAL USE AREAS - IBC SECTION 508.2	
PROTECTION REQUIRED PER TABLE 508.2	
ROOMS w/ BOILERS	N.R. w/ SPRINKLER SYSTEM
STORAGE > 100 SF	N.R. w/ SPRINKLER SYSTEM

REQUIRED SEPARATION OF USES - IBC SECTION 508.3.2

1 HOUR SEPARATION BETWEEN INSTITUTIONAL I-1 & BUSINESS REQUIRED WHEN SPRINKLERED

NONSEPARATED USES - IBC SECTION 508.3.2

REQUIRED TYPE OF CONSTRUCTION FOR BUILDING SHALL BE DETERMINED BY APPLYING THE HEIGHT AND AREA LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF CONSTRUCTION, SO DETERMINED, SHALL APPLY TO THE ENTIRE BUILDING.

CONSTRUCTION TYPE - IBC TABLE 503

TYPE II-B, MIXED USE OCCUPANCY INSTITUTIONAL I-1 & BUSINESS.

INSTITUTIONAL GOVERNS	
ALLOWABLE AREA:	10,000 GSF PER FLOOR
ALLOWABLE HEIGHT:	3 STORIES, UP TO 55-FEET

AUTOMATIC SPRINKLER SYSTEM INCREASE - IBC SECTION 504.2

WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE VALUE SPECIFIED IN TABLE 503 FOR MAXIMUM HEIGHT IS INCREASED BY 20 FEET AND THE MAXIMUM NUMBER OF STORIES IS INCREASED BY ONE STORY. THESE INCREASES ARE PERMITTED IN ADDITION TO THE AREA INCREASE IN ACCORDANCE WITH SECTIONS 506.2 AND 506.3.

AUTOMATIC SPRINKLER SYSTEM INCREASE - IBC SECTION 504.2

WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE VALUE SPECIFIED IN TABLE 503 FOR MAXIMUM HEIGHT IS INCREASED BY 20 FEET AND THE MAXIMUM NUMBER OF STORIES IS INCREASED BY ONE STORY. THESE INCREASES ARE PERMITTED IN ADDITION TO THE AREA INCREASE IN ACCORDANCE WITH SECTIONS 506.2 AND 506.3.

AREA MODIFICATIONS - IBC SECTION 506

GENERAL - SECTION 506.1
Aa = 10,000 + [(10,000/75) / 100] + [(10,000/200) / 100]
Aa = 37,500 SQUARE FEET ALLOWABLE

FRONTAGE INCREASE - SECTION 506.2

AREA INCREASE DUE TO FRONTAGE = 75 PERCENT

AUTOMATIC SPRINKLER SYSTEM INCREASE - SECTION 506.3

AREA INCREASE FOR MULTISTORY BUILDINGS = 200 PERCENT

FIRE-RESISTIVE REQUIREMENTS (TYPE II-B) - IBC TABLE 601

STRUCTURAL FRAME	0 HOURS
BEARING WALLS	0 HOURS
EXTERIOR	0 HOURS
INTERIOR	0 HOURS
NON BEARING WALLS	0 HOURS
EXTERIOR	0 HOURS
INTERIOR	0 HOURS
FLOOR CONSTRUCTION	0 HOURS
ROOF	0 HOURS
STAIRS / SHAFTS	1 HOUR (PER 707.4)
ELEVATOR & MACH. RMS.	1 HOUR

FIRE-RESISTIVE REQUIREMENTS - IBC TABLE 602

EXTERIOR NON BEARING WALL 0 HOURS >30 FEET

EXTERIOR WALL OPENING PROTECTION - IBC SECTION 704

>20-FEET SEPARATION NOT LIMITED
PROTECTED WITH SPRINKLER SYSTEM (SEC. 704.8.1 & TABLE 704.8)

VERTICAL SEPARATION OF OPENINGS

NOT REQUIRED (SEC. 704.9.1 - EX. 1 & 2)

PARAPETS ARE NOT REQUIRED, PER SEC. 704.11 - EX. 6

SHAFT ENCLOSURE PROTECTION - IBC SECTION 707.2

VERTICAL SHAFTS AND CHASER-HOUR RATING - NOT APPLICABLE

CORRIDOR WALLS, FIRE PROTECTION - IBC SECTION 708

FIRE-RATING REQUIRED PER SECTION 708.1 & TABLE 1017.1
GROUP "I-1": 1 HOUR RATED w/ SPRINKLER SYSTEM
GROUP "B": NO RATING w/ SPRINKLER SYSTEM
GROUP "I-1" SLEEPING ROOMS: 1/2 HOUR RATED SEPARATION w/ SPRINKLER SYSTEM (TYPE II-B)

MIN. INTERIOR FINISH FLAME SPREAD - IBC TABLE 803.5 FOR "I-1" AND "B"

PROTECTION REQUIRED PER TABLE 803.5
EXIT ACCESS CORRIDORS & OTHER EXITWAYS: CLASS 'C'
ROOMS AND ENCLOSED SPACES: CLASS 'C'

FIRE PROTECTION SYSTEMS - IBC CHAPTER 9

THE BUILDING IS REQUIRED TO BE PROTECTED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM. PER SECTION 903 & NFPA #13 FOR INSTITUTIONAL "I-1".

NO CLASS 1 STANDPIPES ARE REQUIRED PER SECTION 905.3.1-EX 1 & NFPA #14.

PORTABLE FIRE EXTINGUISHERS - IFC SECTION 906

- REQUIRED AND PROVIDED ONLY IN SPECIAL-HAZARD AREAS - LABS, COMPUTER ROOMS, STORAGE AREAS, ETC. - PER SEC. 906.1.5

CLASS, SIZE, AND LOCATIONS PER NFPA #10

CLASS & SIZE BY ICA FIRE MARSHAL & SAFETY OFFICER

- ORDINARY (MODERATE) HAZARD OCCUPANCY

- 11,250 SF MAX. FLOOR AREA PER F.E. (MIN. 2 A-RATING)

- 75-FEET MAX. TRAVEL DISTANCE TO F.E.

FIRE ALARM & DETECTION SYSTEMS - IBC SEC. 907 & NFPA #72

- PROVIDED PER IBC SECTION 907 & NFPA #72

- AUTOMATIC SMOKE DETECTION IS NOT REQUIRED IN "I-1" WITH SPRINKLER SYSTEM. (SEC. 907.2.6.1)

- MANUAL FIRE ALARM IS REQUIRED (SEC. 907.2.6.1)

OCCUPANT LOAD FACTORS - IBC TABLE 1004.1.1

SLEEPING ROOMS	120 GSF PER PERSON
ASSEMBLY USE - TABLES & CHAIRS	15 NSF PER PERSON
BUSINESS USE	100 GSF PER PERSON
ACCESSORY STORAGE / MECH. USE	300 GSF PER PERSON
SEE PLAN AND OCCUPANT LOAD TABULATION SUMMARY PER FLOOR FOR TOTAL BUILDING OCCUPANT LOADS AND REQUIRED EGRESS LOADS.	

POSTING OCCUPANT LOAD - IBC SECTION 1004.3

OCCUPANT LOADS WILL BE POSTED FOR ALL ASSEMBLY USES.

EGRESS WIDTH - IBC TABLE 1005.1

DOORS:	0.15' PER OCCUPANT
(36" WIDE DOOR = 240 PERSON CAPACITY)	
(42" WIDE DOOR = 280 PERSON CAPACITY)	
(72" WIDE DOOR = 480 PERSON CAPACITY)	

ACCESSIBLE MEANS OF EGRESS - IBC SECTION 1007

AREAS OF REFUGE ARE NOT REQUIRED

EXIT SIGNS - IBC SECTION 1011.1
SIGNS SHALL BE READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. WITH <100-FEET FROM NEAREST VISIBLE SIGN. EXIT SIGNS ARE NOT REQUIRED FOR ROOMS THAT REQUIRE ONLY ONE EXIT.

COMMON PATH EGRESS TRAVEL DISTANCE - IBC 1014.3 - EXCEPT 1.

"I-1" OCCUPANCY, SPRINKLERED = 75 FEET GOVERNS
"B" OCCUPANCY, SPRINKLERED = 100 FEET

EXIT ACCESS DOORWAYS - IBC TABLE 1015.1

1 EXIT - MAX. OCCUPANT LOAD OF 49 PERSONS - "B"
MAX. OCCUPANT LOAD OF 10 PERSONS - "I-1"
2 EXITS OCCUPANT LOAD OVER 49 PERSONS

ALLOWABLE EGRESS TRAVEL DISTANCES - IBC TABLE 1016.1

"I-1" OCCUPANCY, SPRINKLERED = 250 FEET
"B" OCCUPANCY, SPRINKLERED = 300 FEET

CORRIDOR REQUIREMENTS - IBC SECTION 1017, TABLE 1017.1

CORRIDOR FIRE RATING: 1-1" 1-HOUR REQUIRED
"B" 0-HOUR REQUIRED

MAX. DEAD END LENGTH: 1-1" 20-FEET (SEC. 1017.3)
"B" 50-FEET W/SPRINKLER (SEC. 1017.3 - EX 2)

MIN. CORRIDOR WIDTH - IBC 1017.2, EXCEPTION 5

BUSINESS OCCUPANCY: 44 INCHES MIN.
INSTITUTIONAL OCCUPANCY: 72 INCHES MIN.

VHSD REQUESTED SLEEPING WING: 96 INCHES MIN.

USE OF PLENUM SPACE ABOVE CORRIDOR CEILING IS PERMITTED FOR BUSINESS HVAC RETURN AIR SINCE CORRIDOR IS NOT REQUIRED TO BE FIRE-RATED (SEC. 1017.4.1 - EX 1). FOR "I-1" A DUCTED RETURN IS REQUIRED

MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD - IBC TABLE 1019.1

1-500 OCCUPANTS (PER STORY) = 2 EXITS (PER STORY)
449 OCCUPANTS = 1 EXIT ALLOWED BUSINESS, SPRINKLERED (100' MAX. TRAVEL)

ACCESSIBILITY - IBC CHAPTER 11

ALL BUILDING ENTRANCES AND EXITS ARE TO BE ACCESSIBLE

PLUMBING FIXTURES - IBC TABLE 2902.1

USE GROUP OCCUPANT LOAD

1-1" INSTITUTIONAL OCCUPANCY: 151 OCCUPANTS

WATER CLOSETS 1 PER 10 (MALE) & 1 PER 10 (FEMALE)

BATHTUBS 1 PER 8

LAVATORIES 1 PER 10

FOUNTAINS 1 PER 100

SERVICE SINK 1 MIN.

"B" BUSINESS OCCUPANCY: 102 OCCUPANTS

WATER CLOSETS 1 PER 25 < 50 + 1 PER 50 > 50

LAVATORIES 1 PER 40 < 80 + 1 PER 80 > 80

FOUNTAINS 1 PER 100

SERVICE SINK 1 MIN.

TOTAL OCCUPANT LOAD: 253 OCCUPANTS

BUSINESS: 51 MEN INSTITUTIONAL: 76 MEN
51 WOMEN 76 WOMEN

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