2018 APPENDIX B BUILDING CODE SUMMARY - FIRE AREA 1

NAME OF PROJECT: JOHN KNOX VILLAGE - MEADOWS PHASE II
ADDRESS: 520 HOPE LN, LEE'S SUMMIT, MISSOURI
PROPOSED USE: RETIREMENT LIVING COMMUNITY
OWNER/AUTHORIZED AGENT:
OWNED BY: ☐ CITY/COUNTY ■ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ☐ COUNTY ■ STATE

LEAD DESIGN PROFESSIONAL:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	EMAIL
ARCHITECTURAL	SFCS INC.	TIMOTHY J MUELLER	# 006802	540.682.8062	tmueller@sfcs.com
CIVIL	BHC RHODES	ERIC BYRD	# 22713	913.706.2518	eric.byrd@bhc.com
ELECTRICAL	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
FIRE ALARM	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
PLUMBING	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
MECHANICAL	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
SPRINKLER-STANDPIPE	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
STRUCTURAL	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com
RETAINING WALLS >5' HIGH	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com

2018 EDITION OF IBC CODE FOR: ■ NEW CONSTRUCTION ☐ ADDITION ☐ UPFIT

EXISTING: ☐ RECONSTRUCTION ☐ ALTERATION ☐ REPAIR

CONSTRUCTED ____ **ORIGINAL USE** ____ **RENOVATED** ____ **CURRENT USE** ____

BUILDING DATA

CONSTRUCTION TYPE: ☐ I-A ■ I-B ☐ II-A ☐ II-B ■ NO ☐ III-A ☐ III-B ☐ YES ☐ IV ☐ V-A ☐ V-B
MIXED CONSTRUCTION: TYPES: ____

SPRINKLERS: ☐NO ☐PARTIAL ■YES ■NFPA 13 ☐NFPA 13R ☐NFPA 13D
STANDPIPES: ☐NO ■YES CLASS ☐ I ☐ II ☐III ☐WET ☐DRY
FIRE DISTRICT: ■NO ☐YES FLOOD HAZARD AREA: ■NO ☐YES
BUILDING HEIGHT: FEET 11-4 NUMBER OF STORIES 1 - BELOW GRADE
MEZZANINE: ■NO ☐YES

GROSS BUILDING AREA:

BUILDINGS	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
GARAGE	N/A	26,130	26,174
TOTAL			

ALLOWABLE AREA

PRIMARY OCCUPANCY:
ASSEMBLY ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL ☐ FACTORY ☐ F-1 MODERATE ☐F-2 LOW
HAZARDOUS ☐H-1 DETONATE ☐H-2 DEFLAGRATE ☐H-3 COMBUST ☐H-4 HEALTH ☐H-5 HPM
INSTITUTIONAL ☐I-1 ☐I-2 ☐I-3 ☐I-4
I-3 CONDITION ☐1 ☐2 ☐3 ☐4 ☐5
RESIDENTIA ☐R-1 ☐R-2 ☐R-3 ☐R-4
☐ MERCANTILE
STORAGE ☐S-1 MODERATE ■S-2 LOW ☐HIGH-PILED
☐UTILITY & MISCELLANEOUS ■ PARKING GARAGE ☐OPEN ■ENCLOSED ☐REPAIR GARAGE

SECONDARY OCCUPANCY: ____

SPECIAL USES: ☐402 ☐403 ☐404 ☐405 ☐406 ☐407 ☐408 ☐409 ☐410 ☐411 ☐412 ☐413 ☐414 ☐415 ☐416 ☐417 ☐418 ☐419 ☐420 ☐421 ☐422 ☐423

SPECIAL PROVISIONS: ☐509.2 ☐509.3 ☐509.4 ☐509.5 ☐509.6 ☐509.7 ☐509.8

MIXED OCCUPANCY: ■NO ☐YES SEPARATION:____HR. EXCEPTION:____

INCIDENTAL USE SEPARATION (508.2)
ALL INCIDENTAL USE SPACES ARE LESS THAN 10% OF THE TOTAL FLOOR AREA.

NON-SEPARATED USE (508.3)
THE REQUIRED TYPE OF CONSTRUCTION FOR THE BUILDING SHALL BE DETERMINED BY APPLYING THE HEIGHT & AREA LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF CONSTRUCTION.

SEPARATED USE (508.4)-SEE BELOW FOR AREA CALCULATIONS
FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL FLOOR AREA OF EACH USE DIVIDED BY THE ALLOWABLE FLOOR AREA FOR EACH USE SHALL NOT EXCEED 1.

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF / ALLOWABLE AREA OF OCCUPANCY B ≤1

THERE ARE NO MIXED OCCUPANCIES WITHIN EACH BUILDING

____ + ____ + ... = <1.00

BUILDING NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[3] AREA	(C) AREA FOR FRONTAGE INCREASE			(F) MAXIMUM BUILDING AREA[4]
GARAGE	S-2	26,174	316,000	N/A			316,000

1. FRONTAGE AREA INCREASE FROM SECTION 506.2 ARE COMPUTED THUS:
A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM ____ (F)
B. TOTAL BUILDING PERIMETER=____ (P)
C. RATIO (F/P)= (F/P)
D. W=MINIMUM WIDTH OF PUBLIC ____(W)
E. PERCENT OF FRONTAGE INCREASE, I =100 [F/P-0.25] X W/30 = (%)
2. THE SPRINKLER INCREASE PER SECTION 506.3 IS AS FOLLOWS:
A. MULTI-STORY BUILDING I =200 PERCENT
B. SINGLE STORY BUILDING I =300 PERCENT
3. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTIONS GROUP B, F, M, S, A-3, A-4 (507); GROUP A MOTION PICTURE (507.10); COVERED MALL BUILDINGS (402.6); AND H-2 AIRCRAFT PAINT HANGERS (507.8).
4. MAXIMUM BUILDING AREA=TOTAL NUMBER OF STORIES IN THE BUILDING x E (506.4).
5. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.3.5. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH TABLE 412.12.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
TYPE OF CONSTRUCTION	TYPE I-B		TYPE I-B	
BUILDING HEIGHT IN FEET	FEET 180	FEET=H+20'= N/A	11'-4"	504.2
BUILDING HEIGHT IN STORIES:	STORIES: 12	STORIES + 1= N/A	1 STORY	504.2

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ REDUCTION*)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	N/A	2 HR	2 HR	A0.2			
BEARING WALLS	N/A	2 HR	2 HR	A0.2			
EXTERIOR	N/A	2 HR	2 HR	A0.2			
NORTH	N/A	2 HR	2 HR	A0.2			
EAST	N/A	2 HR	2 HR	A0.2			
SOUTH	N/A	2 HR	2 HR	A0.2	U347		
WEST	N/A	2 HR	2 HR	A0.2			
INTERIOR	N/A	2 HR	2 HR	A0.2			
NONBEARING WALLS AND PARTITIONS							
EXTERIOR WALLS							
NORTH	N/A	0	0	N/A	N/A		
EAST	N/A	0	0	N/A	N/A		
SOUTH	VARIES - A0.2	1	2	N/A	N/A		
WEST	N/A	0	0	N/A	N/A		
INTERIOR WALLS AND PARTITIONS	N/A	0	0	N/A	N/A		
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	2 HR	N/A	N/A	N/A		
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	1 HR	2 HR	A0.2	TABLE 722.1.1.1		
SHAFT ENCLOSURES-EXIT	N/A	2 HR	2 HR	A0.2	TABLE 722.1.1.1		
SHAFT ENCLOSURES-OTHER	N/A	2 HR	2 HR	A0.2	TABLE 722.1.1.1		
CORRIDOR SEPARATION	N/A	N/A	N/A	N/A	N/A		
OCCUPANCY SEPARATION	N/A	N/A	N/A	N/A	N/A		
PARTY/FIRE WALL SEPARATION	N/A	N/A	N/A	N/A	N/A		
SMOKE BARRIER SEPARATION	N/A	N/A	N/A	N/A	N/A		
INCIDENTAL USE SEPARATION	N/A	N/A	N/A	N/A	U423		

* INDICATE SECTION NUMBER PERMITTING REDUCTION

LIFE SAFETY REQUIREMENTS

EMERGENCY LIGHTING: ☐NO ■YES
EXIT SIGNS: ☐NO ■YES
FIRE ALARM: ☐NO ■YES
SMOKE DETECTION SYSTEMS: ☐NO ■YES ☐PARTIAL____
PANIC HARDWARE: ☐NO ■YES

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NUMBER OF EXITS: REQUIRED	MINIMUM[2] NUMBER OF EXITS: SHOWN ON PLANS	TRAVEL DISTANCE: ALLOWABLE TRAVEL DISTANCE (TABLE 1016.2)	TRAVEL DISTANCE: ACTUAL TRAVEL DISTANCE SHOWN ON PLANS		
GARAGE	2	3	400'	125'		

1. CORRIDOR DEAD ENDS (SECTION 1017.3)
2. BUILDINGS WITH SINGLE EXITS (TABLE 1019.2), SPACES WITH ONE MEANS OF EGRESS (TABLE 1015.1)
3. COMMON PATH OF TRAVEL (SECTION 1014.3)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD a / b	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (IN)[2,3,4,5,6] REQUIRED WIDTH (SECTION 1005.1) (a / b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
GARAGE	26,174	200 GROSS	131	0.3"	0.2"	44"	44"	48"	78"

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE.
SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002)
2. MINIMUM STAIRWAY WIDTH (SECTION 1009.1); MIN. CORRIDOR WIDTH (SECTION 1018.2); MIN. DOOR WIDTH (SECTION 1008.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1023.2)
4. SEE SECTION 1004.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE TOTAL REQUIRED (SECTION 1005.1)
6. ASSEMBLY OCCUPANCIES (SECTION 1028)

STRUCTURAL DESIGN

DESIGN LOADS:

IMPORTANCE FACTORS: WIND (I_W) ____ SNOW (I_S) ____ SEISMIC (I_E) ____

LIVE LOADS: ROOF ____PSF MEZZANINE ____PSF FLOOR ____PSF ____PSF ____PSF

GROUND SNOW LOAD: ____PSF

WIND LOAD: BASIC WIND ____MPH (ASCE-7) EXPOSURE CATEGORY ____ WIND BASE SHEARS ____ AUDITORIUM: V_x ____ V_y ____ DINING: V_x ____ V_y ____ WELLNESS: V_x ____ V_y ____

SEISMIC DESIGN CATEGORY ☐A ☐B ☐C
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
OCCUPANCY CATEGORY ☐ I ☐ II ☐ IV
SPECTRAL RESPONSE ACCELERATION S_{DS}____%g S_{D1}____%g
SITE CLASSIFICATION ____ ☐ FIELD TEST ☐PRESUMPTIVE ☐HISTORICAL DATA
BASIC STRUCTURAL SYSTEM (CHECK ONE)
____BEARING WALL ____DUAL W/SPECIAL MOMENT FRAME
____BUILDING FRAME ____DUAL W/INTERMEDIATE R/C OR SPECIAL
____MOMENT ____INVERTED PENDULUM
SEISMIC BASE SHEAR, V_{US} ____
ANALYSIS ____SIMPLIFIED ____EQUIVALENT LATERAL FORCE ____MODAL
ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED?

LATERAL DESIGN CONTROL: EARTHQUAKE____ WIND____

SOIL BEARING CAPACITIES:
FIELD TEST (PROVIDE COPY OF TEST ____PSF
PRESUMPTIVE BEARING CAPACITY ____PSF
PILE SIZE, TYPE, AND CAPACITY ____

SEE STRUCTURAL DRAWINGS

PLUMBING FIXTURE REQUIREMENTS

USE		WATER CLOSETS	URINALS	LAVATORIES	SHOWERS / TUBS	DRINKING FOUNTAINS
SPACE	EXISTING					
	PROVIDED	N/A				
	REQUIRED					

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	# OF ACCESSIBLE SPACES PROVIDED: VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
		SEE CIVIL DRAWINGS			
TOTAL					

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL ALSO BE PROVIDED. EACH DESIGNER SHALL FURNISH THE REQUIRED THE PROJECT INFORMATION FOR THE PLAN DATA SHEET. IF ENERGY COST BUDGET METHOD, ANNUAL ENERGY COST BUDGET VS ALLOWABLE ANNUAL ENERGY COST BUDGET.

THERMAL ENVELOPE

METHOD OF COMPLIANCE: SEE A6 SERIES
■ PRESCRIPTIVE ____% GLAZED WALL AREA
☐ PERFORMANCE ☐ENERGY COST BUDGET

ROOF/CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
SKYLIGHTS IN EACH
U-VALUE OF SKYLIGHT
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAU-VALUE OF ASSEMBLY
SHADING COEFFICIENT
PROJECTION FACTOR
LOW E REQUIRED
DOOR R-VALUES

WALLS ADJACENT TO UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAU-VALUE OF ASSEMBLY
LOW E REQUIRED, IF
DOOR R-VALUES

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
HORIZONTAL/VERTICAL REQUIREMENTS
SLAB HEATED

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐PRESCRIPTIVE ☐ PERFORMANCE ☐ ENERGY COST BUDGET

LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN
NUMBER OF LAMPS IN FIXTURE
BALLAST TYPE USED IN THE
NUMBER OF BALLASTS IN
TOTAL WATTAGE PER FIXTURE
TOTAL INTERIOR WATTAGE SPECIFIED
TOTAL EXTERIOR WATTAGE SPECIFIED
ALLOWED

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

SEE ELECTRICAL DRAWINGS

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐PRESCRIPTIV ☐ENERGY COST BUDGET
F

CLIMATE ZONE

THERMAL ZONE
WINTER DRY BULB
SUMMER DRY BULB

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB
SUMMER DRY BULB
RELATIVE HUMIDITY

BUILDING HEATING LOAD

BUILDING COOLING LOAD

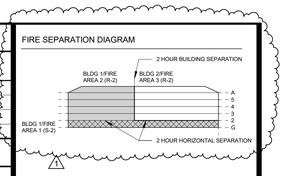
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF
HEATING EFFICIENCY
COOLING EFFICIENCY
HEAT OUTPUT OF UNIT
COOLING OUTPUT OF UN
BOILER
TOTAL BOILER OUT OVERSIZED, STATE
CHILLERSON.
TOTAL CHILLE CITY. IF OVERSIZED, STATE
REASON.

LIST EQUIPMENT EFFICIENCIES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

SEE MECHANICAL DRAWINGS

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI TIMOTHY J. MUELLER NUMBER A-6802 REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	DAS
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

APPENDIX B - GARAGE

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A0.1a SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/9/2021 11:28:45 AM
COMM NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

2018 APPENDIX B BUILDING CODE SUMMARY - FIRE AREA 2

NAME OF PROJECT: JOHN KNOX VILLAGE - MEADOWS PHASE II
ADDRESS: 520 HOPE LN, LEE'S SUMMIT, MISSOURI
PROPOSED USE: RETIREMENT LIVING COMMUNITY
OWNER/AUTHORIZED AGENT:
OWNED BY: ☐ CITY/COUNTY ■ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ☐ COUNTY ■ STATE

LEAD DESIGN PROFESSIONAL:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	EMAIL
ARCHITECTURAL	SFCS INC.	TIMOTHY J MUELLER	# 006802	540.682.8062	tmueller@sfcs.com
CIVIL	BHC RHODES	ERIC BYRD	# 22713	913.706.2518	eric.byrd@bhc.com
ELECTRICAL	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
FIRE ALARM	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
PLUMBING	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
MECHANICAL	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
SPRINKLER-STANDPIPE	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
STRUCTURAL	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com
RETAINING WALLS >5' HIGH	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com

2018 EDITION OF IBC CODE FOR: ■ NEW CONSTRUCTION ☐ ADDITION ☐ UPFIT

EXISTING: ☐ RECONSTRUCTION ☐ ALTERATION ☐ REPAIR

CONSTRUCTED _____ **ORIGINAL USE** _____ **RENOVATED** _____ **CURRENT USE** _____

BUILDING DATA

CONSTRUCTION TYPE: ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V ■ V-A ☐ V-B
MIXED CONSTRUCTION: ■ NO ☐ YES TYPES: _____
SPRINKLERS: ☐ NO ☐ PARTIAL ■ YES ☐ NFPA 13 ■ NFPA 13R ☐ NFPA 13D
STANDPIPES: ☐ NO ■ YES CLASS ☐ I ☐ II ☐ III ☐ WET ☐ DRY
FIRE DISTRICT: ■ NO ☐ YES FLOOD HAZARD AREA: ■ NO ☐ YES
BUILDING HEIGHT: FEET 55 NUMBER OF STORIES 4
MEZZANINE: ■ NO ☐ YES

GROSS BUILDING AREA:

LEVELS	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
SECOND FLOOR	N/A	10,301	10,301
THIRD FLOOR	N/A	9,821	9,821
FOURTH FLOOR	N/A	9,821	9,821
FIFTH FLOOR	N/A	9,821	9,821
TOTAL			39,764

ALLOWABLE AREA

PRIMARY OCCUPANCY: ASSEMBLY ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL FACTORY ☐ F-1 MODERATE ☐ F-2 LOW
HAZARDOUS ☐ H-1 DETONATE ☐ H-2 DEFLAGRATE ☐ H-3 COMBUST ☐ H-4 HEALTH ☐ H-5 HPM
INSTITUTIONAL ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIA ☐ R-1 ■ R-2 ☐ R-3 ☐ R-4
STORAGE ☐ S-1 MODERATE ☐ S-2 LOW ☐ HIGH-PILED
☐ UTILITY & MISCELLANEOUS ☐ PARKING GARAGE ☐ OPEN ☐ ENCLOSED ☐ REPAIR GARAGE

SECONDARY OCCUPANCY: _____

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423

SPECIAL PROVISIONS: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8

MIXED OCCUPANCY: ■ NO ☐ YES SEPARATION: _____ HR. EXCEPTION: _____

INCIDENTAL USE SEPARATION (508.2)
ALL INCIDENTAL USE SPACES ARE LESS THAN 10% OF THE TOTAL FLOOR AREA.

NON-SEPARATED USE (508.3)
THE REQUIRED TYPE OF CONSTRUCTION FOR THE BUILDING SHALL BE DETERMINED BY APPLYING THE HEIGHT & AREA LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF CONSTRUCTION.

SEPARATED USE (508.4)-SEE BELOW FOR AREA CALCULATIONS
FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL FLOOR AREA OF EACH USE DIVIDED BY THE ALLOWABLE FLOOR AREA FOR EACH USE SHALL NOT EXCEED 1.

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF / ALLOWABLE AREA OF OCCUPANCY B ≤1

THERE ARE NO MIXED OCCUPANCIES WITHIN EACH BUILDING

_____ + _____ + ... = <1.00

BUILDING NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA [5]	(C) AREA FOR FRONTAGE INCREASE [1]	(D) AREA FOR SPRINKLER INCREASE [2]	(E) ALLOWABLE AREA OR UNLIMITED [3]	(F) MAXIMUM BUILDING AREA [4]
APARTMENTS AREA A	R-2	10,301	12,000	9,000	N/A	21,000	84,000

1. FRONTAGE AREA INCREASE FROM SECTION 506.2 ARE COMPUTED THUS:
A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM _____ (F)
B. TOTAL BUILDING PERIMETER= _____ (P)
C. RATIO (F/P)= (F/P)
D. W=MINIMUM WIDTH OF PUBLIC _____(W)
E. PERCENT OF FRONTAGE INCREASE, I =100 [F/P-0.25] X W/30 = (%)
2. THE SPRINKLER INCREASE PER SECTION 506.3 IS AS FOLLOWS:
A. MULTI-STORY BUILDING I =200 PERCENT
B. SINGLE STORY BUILDING I =300 PERCENT
3. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTIONS GROUP B, F, M, S, A-3, A-4 (507); GROUP A MOTION PICTURE (507.10); COVERED MALL BUILDINGS (402.6); AND H-2 AIRCRAFT PAINT HANGERS (507.8).
4. MAXIMUM BUILDING AREA=TOTAL NUMBER OF STORIES IN THE BUILDING x E (506.4).
5. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.3.5. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH TABLE 412.12.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
TYPE OF CONSTRUCTION	TYPE V-A		TYPE V-A	
BUILDING HEIGHT IN FEET	FEET 60	FEET=H+20'= N/A	55'	504.3
BUILDING HEIGHT IN STORIES:	STORIES: 4	STORIES + 1= N/A	4 STORY	504.3

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ REDUCTION*)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	N/A	1 HR	1 HR	A0.3	L569/P522	1	
BEARING WALLS	N/A	1 HR	1 HR	A0.3	U356/GA 3510		
EXTERIOR	N/A	1 HR	1 HR	A0.3	U356		
NORTH	N/A	1 HR	1 HR	A0.3	U356		
EAST	N/A	1 HR	1 HR	A0.3	U356		
SOUTH	-	2 HR	2 HR	A0.3	U347/U356		
WEST	N/A	1 HR	1 HR	A0.3	U356		
INTERIOR	N/A	1 HR	1 HR	A0.3	U311/GA 3510		
NONBEARING WALLS AND PARTITIONS							
EXTERIOR WALLS							
NORTH	N/A	0	0	N/A	N/A		
EAST	N/A	0	0	N/A	N/A		
SOUTH	N/A	0	0	N/A	N/A		
WEST	N/A	0	0	N/A	N/A		
INTERIOR WALLS AND PARTITIONS	N/A	0	0	N/A	N/A		
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	1 HR	1 HR	A0.3	L563/L569		
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	1 HR	1 HR	A0.3	P522		
SHAFT ENCLOSURES-EXIT	N/A	2 HR	2 HR	A0.3	U347		
SHAFT ENCLOSURES-OTHER	N/A	2 HR	2 HR	A0.3	U905		
CORRIDOR SEPARATION	N/A	1 HR	1 HR	A0.3	U311/GA 3510		
OCCUPANCY SEPARATION	N/A	N/A	N/A	N/A	N/A		
PARTY/FIRE WALL SEPARATION	N/A	2 HR	2 HR	A0.3	U347		
SMOKE BARRIER SEPARATION	N/A	1 HR	1 HR	A0.3	U305		
INCIDENTAL USE SEPARATION	N/A	1 HR	1 HR	A0.3	U305		

* INDICATE SECTION NUMBER PERMITTING REDUCTION

LIFE SAFETY REQUIREMENTS

EMERGENCY LIGHTING: ☐ NO ■ YES
EXIT SIGNS: ☐ NO ■ YES
FIRE ALARM: ☐ NO ■ YES
SMOKE DETECTION SYSTEMS: ☐ NO ■ YES ☐ PARTIAL_____
PANIC HARDWARE: ☐ NO ■ YES

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NUMBER OF EXITS: REQUIRED	MINIMUM[2] NUMBER OF EXITS: SHOWN ON PLANS	TRAVEL DISTANCE: ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	TRAVEL DISTANCE: ACTUAL TRAVEL DISTANCE SHOWN ON PLANS		
SECOND FLOOR	2	4	250'	125'		
THIRD FLOOR	2	4	250'	125'		
FOURTH FLOOR	2	3	250'	125'		
FIFTH FLOOR	2	3	250'	125'		

1. CORRIDOR DEAD ENDS (SECTION 1017.3)
2. BUILDINGS WITH SINGLE EXITS (TABLE 1019.2), SPACES WITH ONE MEANS OF EGRESS (TABLE 1015.1)
3. COMMON PATH OF TRAVEL (SECTION 1014.3)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD a / b	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (IN)[2,3,4,5,6] REQUIRED WIDTH (SECTION 1005.1) (a / b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
SECOND FLOOR	10,301	200 GROSS	52	0.3"	0.2"	44"	44"	48"	78"
THIRD FLOOR	9,821	200 GROSS	50	0.3"	0.2"	44"	44"	48"	78"
FOURTH FLOOR	9,821	200 GROSS	50	0.3"	0.2"	44"	44"	48"	78"
FIFTH FLOOR	9,821	200 GROSS	50	0.3"	0.2"	44"	44"	48"	78"

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE.
SEE DEFINITION "AREA, GROSS" AND "AREA,NET" (SECTION 1002)
2. MINIMUM STAIRWAY WIDTH (SECTION 1009.1); MIN. CORRIDOR WIDTH (SECTION 1018.2); MIN. DOOR WIDTH (SECTION 1008.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1023.2)
4. SEE SECTION 1004.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE TOTAL REQUIRED (SECTION 1005.1)
6. ASSEMBLY OCCUPANCIES (SECTION 1028)

STRUCTURAL DESIGN

DESIGN LOADS:

IMPORTANCE FACTORS: WIND (I_W) _____ SNOW (I_S) _____ SEISMIC (I_E) _____

LIVE LOADS: ROOF _____ PSF MEZZANINE _____ PSF FLOOR _____ _____ _____

GROUND SNOW LOAD: _____ PSF

WIND LOAD: BASIC WIND _____ MPH (ASCE-7) EXPOSURE CATEGORY _____ WIND BASE SHEARS _____
AUDITORIUM: V_x _____ V_y _____
DINING: V_x _____ V_y _____
WELLNESS: V_x _____ V_y _____

SEISMIC DESIGN CATEGORY ☐ A ☐ B ☐ C
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
OCCUPANCY CATEGORY ☐ I ☐ II ☐ III ☐ IV
SPECTRAL RESPONSE ACCELERATION S_{DS} _____ %g S_{D1} _____ %g
SITE CLASSIFICATION _____ ☐ FIELD TEST ☐ PRESUMPTIVE ☐ HISTORICAL DATA
BASIC STRUCTURAL SYSTEM (CHECK ONE)
_____ BEARING WALL _____ DUAL W/SPECIAL MOMENT FRAME
_____ BUILDING FRAME _____ DUAL W/INTERMEDIATE R/C OR SPECIAL
_____ MOMENT _____ INVERTED PENDULUM
SEISMIC BASE SHEAR V_{US} _____
ANALYSIS _____ SIMPLIFIED _____ EQUIVALENT LATERAL FORCE _____ MODAL
ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED? _____

LATERAL DESIGN CONTROL: EARTHQUAKE_____ WIND_____

SOIL BEARING CAPACITIES:
FIELD TEST (PROVIDE COPY OF TEST _____ PSF
PRESUMPTIVE BEARING CAPACITY _____ PSF
PILE SIZE, TYPE, AND CAPACITY _____

SEE STRUCTURAL DRAWINGS

PLUMBING FIXTURE REQUIREMENTS

USE		WATERCLOSETS RESID. (R-2)	URINALS RESID. (R-2)	LAVATORIES RESID. (R-2)	SHOWERS/TUBS RESID. (R-2)	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING						
	PROVIDED	PROVIDED IN UNITS					
	REQUIRED						

NOTE: 1 LAVATORY AND 1 WC LOCATED IN EACH RESIDENT UNIT BATH MIN.

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	# OF ACCESSIBLE SPACES PROVIDED: VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
		SEE CIVIL DRAWINGS			
TOTAL					

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL ALSO BE PROVIDED. EACH DESIGNER SHALL FURNISH THE REQUIRED THE PROJECT INFORMATION FOR THE PLAN DATA SHEET. IF ENERGY COST BUDGET METHOD, ANNUAL ENERGY COST BUDGET VS ALLOWABLE ANNUAL ENERGY COST BUDGET.

THERMAL ENVELOPE

METHOD OF COMPLIANCE: SEE A6 SERIES
■ PRESCRIPTIVE ___% GLAZED WALL AREA
☐ PERFORMANCE ☐ ENERGY COST BUDGET

ROOF/CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
SKYLIGHTS IN EACH
U-VALUE OF SKYLIGHT
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY
SHADING COEFFICIENT
PROJECTION FACTOR
LOW E REQUIRED
DOOR R-VALUES

WALLS ADJACENT TO UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY
LOW E REQUIRED, IF
DOOR R-VALUES

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
HORIZONTAL/VERTICAL REQUIREMENTS
SLAB HEATED

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐ PRESCRIPTIVE ☐ PERFORMANCE ☐ ENERGY COST BUDGET
LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN
NUMBER OF LAMPS IN FIXTURE
BALLAST TYPE USED IN THE
NUMBER OF BALLASTS IN
TOTAL WATTAGE PER FIXTURE
TOTAL INTERIOR WATTAGE SPECIFIED
TOTAL EXTERIOR WATTAGE SPECIFIED
ALLOWED
EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

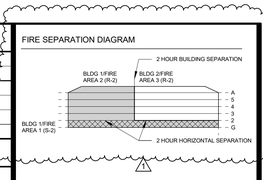
SEE ELECTRICAL DRAWINGS

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐ PRESCRIPTIV ☐ ENERGY COST BUDGET
E
CLIMATE ZONE
THERMAL ZONE
WINTER DRY BULB
SUMMER DRY BULB
INTERIOR DESIGN CONDITIONS
WINTER DRY BULB
SUMMER DRY BULB
RELATIVE HUMIDITY
BUILDING HEATING LOAD
BUILDING COOLING LOAD
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF
HEATING EFFICIENCY
COOLING EFFICIENCY
HEAT OUTPUT OF UNIT
COOLING OUTPUT OF UNIT
BOILER
TOTAL BOILER OUTPUT OVERSIZED, STATE REASON.
CHILLER
TOTAL CHILLER CAPACITY. IF OVERSIZED, STATE REASON.
LIST EQUIPMENT EFFICIENCIES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

SEE MECHANICAL DRAWINGS

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI TIMOTHY J MUELLER NUMBER A-6802 REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

APPENDIX B - APARTMENTS - AREA A

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A0.1b SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/9/2021 11:29:03 AM
COMM NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

2018 APPENDIX B BUILDING CODE SUMMARY - FIRE AREA 3

NAME OF PROJECT: JOHN KNOX VILLAGE - MEADOWS PHASE II
ADDRESS: 520 HOPE LN, LEE'S SUMMIT, MISSOURI
PROPOSED USE: RETIREMENT LIVING COMMUNITY
OWNER/AUTHORIZED AGENT:
OWNED BY: ☐ CITY/COUNTY ■ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ☐ COUNTY ■ STATE

LEAD DESIGN PROFESSIONAL:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	EMAIL
ARCHITECTURAL	SFCS INC.	TIMOTHY J MUELLER	# 006802	540.682.8062	tmueller@sfcs.com
CIVIL	BHC RHODES	ERIC BYRD	# 22713	913.706.2518	eric.byrd@bhc.com
ELECTRICAL	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
FIRE ALARM	OPTIMA ENGINEERING	KEITH PEHL	# PE025154	704.338.1292	kpehl@optimaengineering.com
PLUMBING	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
MECHANICAL	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
SPRINKLER-STANDPIPE	OPTIMA ENGINEERING	BYRON FORD	# PE2014023016	704.338.1292	bford@optimaengineering.com
STRUCTURAL	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com
RETAINING WALLS >5' HIGH	FITZPATRICK ENGINEERING	DOUGLAS G FITZPATRICK	# PE201401124	704.987.9114	dfitzpatrick@fegstructural.com

2018 EDITION OF IBC CODE FOR: ■ NEW CONSTRUCTION ☐ ADDITION ☐ UPFIT

EXISTING: ☐ RECONSTRUCTION ☐ ALTERATION ☐ REPAIR

CONSTRUCTED _____ **ORIGINAL USE** _____ **RENOVATED** _____ **CURRENT USE** _____

BUILDING DATA

CONSTRUCTION TYPE: ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ■ V-A ☐ V-B

MIXED CONSTRUCTION: ■ NO ☐ YES TYPES: _____

SPRINKLERS: ☐ NO ☐ PARTIAL ■ YES ☐ NFPA 13 ■ NFPA 13R ☐ NFPA 13D

STANDPIPES: ☐ NO ■ YES CLASS ☐ I ☐ II ☐ III ☐ WET ☐ DRY

FIRE DISTRICT: ■ NO ☐ YES FLOOD HAZARD AREA: ■ NO ☐ YES

BUILDING HEIGHT: FEET 55 NUMBER OF STORIES 4

MEZZANINE: ■ NO ☐ YES

GROSS BUILDING AREA:

LEVELS	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
SECOND FLOOR	N/A	13,879	13,879
THIRD FLOOR	N/A	13,879	13,879
FOURTH FLOOR	N/A	13,879	13,879
FIFTH FLOOR	N/A	13,879	13,879
TOTAL			55,516

ALLOWABLE AREA

PRIMARY OCCUPANCY:
ASSEMBLY ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL FACTORY ☐ F-1 MODERATE ☐ F-2 LOW
HAZARDOUS ☐ H-1 DETONATE ☐ H-2 DEFLAGRATE ☐ H-3 COMBUST ☐ H-4 HEALTH ☐ H-5 HPM
INSTITUTIONAL ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIA ☐ R-1 ■ R-2 ☐ R-3 ☐ R-4
STORAGE ☐ S-1 MODERATE ☐ S-2 LOW ☐ HIGH-PILED
☐ UTILITY & MISCELLANEOUS ☐ PARKING GARAGE ☐ OPEN ☐ ENCLOSED ☐ REPAIR GARAGE

SECONDARY OCCUPANCY: _____

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423

SPECIAL PROVISIONS: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8

MIXED OCCUPANCY: ■ NO ☐ YES SEPARATION: _____ HR. EXCEPTION: _____

INCIDENTAL USE SEPARATION (508.2)
ALL INCIDENTAL USE SPACES ARE LESS THAN 10% OF THE TOTAL FLOOR AREA.

NON-SEPARATED USE (508.3)
THE REQUIRED TYPE OF CONSTRUCTION FOR THE BUILDING SHALL BE DETERMINED BY APPLYING THE HEIGHT & AREA LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF CONSTRUCTION.

SEPARATED USE (508.4)-SEE BELOW FOR AREA CALCULATIONS
FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL FLOOR AREA OF EACH USE DIVIDED BY THE ALLOWABLE FLOOR AREA FOR EACH USE SHALL NOT EXCEED 1.

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF OCCUPANCY B / ALLOWABLE AREA OF OCCUPANCY B ≤1

THERE ARE NO MIXED OCCUPANCIES WITHIN EACH BUILDING

_____ + _____ + ... = <1.00

BUILDING NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA [5]	(C) AREA FOR FRONTAGE INCREASE [1]	(D) AREA FOR SPRINKLER INCREASE [2]	(E) ALLOWABLE AREA OR UNLIMITED [3]	(F) MAXIMUM BUILDING AREA [4]
APARTMENTS AREA A	R-2	13,879	12,000	9,000	N/A	21,000	84,000

1. FRONTAGE AREA INCREASE FROM SECTION 506.2 ARE COMPUTED THUS:
A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM _____ (F)
B. TOTAL BUILDING PERIMETER=_____ (P)
C. RATIO (F/P)= (F/P)
D. W=MINIMUM WIDTH OF PUBLIC _____(W)
E. PERCENT OF FRONTAGE INCREASE, I =100 [F/P-0.25] X W/30 = (%)
2. THE SPRINKLER INCREASE PER SECTION 506.3 IS AS FOLLOWS:
A. MULTI-STORY BUILDING I =200 PERCENT
B. SINGLE STORY BUILDING I =300 PERCENT
3. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTIONS GROUP B, F, M, S, A-3, A-4 (507); GROUP A MOTION PICTURE (507.10); COVERED MALL BUILDINGS (402.6); AND H-2 AIRCRAFT PAINT HANGERS (507.8).
4. MAXIMUM BUILDING AREA=TOTAL NUMBER OF STORIES IN THE BUILDING x E (506.4).
5. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.3.5. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH TABLE 412.12.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
TYPE OF CONSTRUCTION	TYPE V-A		TYPE V-A	
BUILDING HEIGHT IN FEET	FEET 60	FEET=H+20'= N/A	55'	504.3
BUILDING HEIGHT IN STORIES:	STORIES: 4	STORIES + 1= N/A	4 STORY	504.3

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ REDUCTION*)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	N/A	1 HR	1 HR	A0.3	L569/P522	1	
BEARING WALLS	N/A	1 HR	1 HR	A0.3	U356/GA 3510		
EXTERIOR	N/A	1 HR	1 HR	A0.3	U356		
NORTH	N/A	1 HR	1 HR	A0.3	U356		
EAST	N/A	1 HR	1 HR	A0.3	U356		
SOUTH	-	2 HR	2 HR	A0.3	U347/U356		
WEST	N/A	1 HR	1 HR	A0.3	U356		
INTERIOR	N/A	1 HR	1 HR	A0.3	U311/GA 3510		
NONBEARING WALLS AND PARTITIONS							
EXTERIOR WALLS							
NORTH	N/A	0	0	N/A	N/A		
EAST	N/A	0	0	N/A	N/A		
SOUTH	N/A	0	0	N/A	N/A		
WEST	N/A	0	0	N/A	N/A		
INTERIOR WALLS AND PARTITIONS	N/A	0	0	N/A	N/A		
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	1 HR	1 HR	A0.3	L563/L569		
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS	N/A	1 HR	1 HR	A0.3	P522		
SHAFT ENCLOSURES-EXIT	N/A	2 HR	2 HR	A0.3	U347		
SHAFT ENCLOSURES-OTHER	N/A	2 HR	2 HR	A0.3	U905		
CORRIDOR SEPARATION	N/A	1 HR	1 HR	A0.3	U311/GA 3510		
OCCUPANCY SEPARATION	N/A	N/A	N/A	N/A	N/A		
PARTY/FIRE WALL SEPARATION	N/A	2 HR	2 HR	A0.3	U347		
SMOKE BARRIER SEPARATION	N/A	1 HR	1 HR	A0.3	U305		
INCIDENTAL USE SEPARATION	N/A	1 HR	1 HR	A0.3	U305		

* INDICATE SECTION NUMBER PERMITTING REDUCTION

LIFE SAFETY REQUIREMENTS

EMERGENCY LIGHTING: ☐ NO ■ YES
EXIT SIGNS: ☐ NO ■ YES
FIRE ALARM: ☐ NO ■ YES
SMOKE DETECTION SYSTEMS: ☐ NO ■ YES ☐ PARTIAL_____
PANIC HARDWARE: ☐ NO ■ YES

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NUMBER OF EXITS: REQUIRED	MINIMUM[2] NUMBER OF EXITS: SHOWN ON PLANS	TRAVEL DISTANCE: ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	TRAVEL DISTANCE: ACTUAL TRAVEL DISTANCE SHOWN ON PLANS		
SECOND FLOOR	2	3	250'	175'		
THIRD FLOOR	2	2	250'	175'		
FOURTH FLOOR	2	2	250'	175'		
FIFTH FLOOR	2	2	250'	175'		

1. CORRIDOR DEAD ENDS (SECTION 1017.3)
2. BUILDINGS WITH SINGLE EXITS (TABLE 1019.2), SPACES WITH ONE MEANS OF EGRESS (TABLE 1015.1)
3. COMMON PATH OF TRAVEL (SECTION 1014.3)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD a / b	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (IN)[2,3,4,5,6] REQUIRED WIDTH (SECTION 1005.1) (a / b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
SECOND FLOOR	13,879	200 GROSS	70	0.3"	0.2"	44"	44"	48"	78"
THIRD FLOOR	13,879	200 GROSS	70	0.3"	0.2"	44"	44"	48"	78"
FOURTH FLOOR	13,879	200 GROSS	70	0.3"	0.2"	44"	44"	48"	78"
FIFTH FLOOR	13,879	200 GROSS	70	0.3"	0.2"	44"	44"	48"	78"

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE.
SEE DEFINITION "AREA, GROSS" AND "AREA,NET" (SECTION 1002)
2. MINIMUM STAIRWAY WIDTH (SECTION 1009.1); MIN. CORRIDOR WIDTH (SECTION 1018.2); MIN. DOOR WIDTH (SECTION 1008.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1023.2)
4. SEE SECTION 1004.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE TOTAL REQUIRED (SECTION 1005.1)
6. ASSEMBLY OCCUPANCIES (SECTION 1028)

STRUCTURAL DESIGN

DESIGN LOADS:

IMPORTANCE FACTORS: WIND (I_W) _____ SNOW (I_S) _____ SEISMIC (I_E) _____

LIVE LOADS: ROOF _____ PSF MEZZANINE _____ PSF FLOOR _____ _____ _____

GROUND SNOW LOAD: _____ PSF

WIND LOAD: BASIC WIND _____ MPH (ASCE-7) EXPOSURE CATEGORY _____ WIND BASE SHEARS _____ AUDITORIUM: V_x _____ V_y _____ DINING: V_x _____ V_y _____ WELLNESS: V_x _____ V_y _____

SEISMIC DESIGN CATEGORY ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
OCCUPANCY CATEGORY ☐ I ☐ II ☐ III ☐ IV
SPECTRAL RESPONSE ACCELERATION S_{DS} _____ %g S_{D1} _____ %g
SITE CLASSIFICATION _____ ☐ FIELD TEST ☐ PRESUMPTIVE ☐ HISTORICAL DATA
BASIC STRUCTURAL SYSTEM (CHECK ONE)
_____ BEARING WALL _____ DUAL W/SPECIAL MOMENT FRAME
_____ BUILDING FRAME _____ DUAL W/INTERMEDIATE R/C OR SPECIAL
_____ MOMENT _____ INVERTED PENDULUM
SEISMIC BASE SHEAR/ME V_{EQ} _____
ANALYSIS _____ SIMPLIFIED _____ EQUIVALENT LATERAL FORCE _____ MODAL
ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED? _____

LATERAL DESIGN CONTROL: EARTHQUAKE _____ WIND _____

SOIL BEARING CAPACITIES:
FIELD TEST (PROVIDE COPY OF TEST) _____ PSF
PRESUMPTIVE BEARING CAPACITY _____ PSF
PILE SIZE, TYPE, AND CAPACITY _____

SEE STRUCTURAL DRAWINGS

PLUMBING FIXTURE REQUIREMENTS

USE		WATERCLOSETS RESID. (R-2)	URINALS RESID. (R-2)	LAVATORIES RESID. (R-2)	SHOWERS/TUBS RESID. (R-2)	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING						
	PROVIDED						
	REQUIRED						

PROVIDED IN UNITS

NOTE: 1 LAVATORY AND 1 WC LOCATED IN EACH RESIDENT UNIT BATH MIN.

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	# OF ACCESSIBLE SPACES PROVIDED: VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL					

SEE CIVIL DRAWINGS

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL ALSO BE PROVIDED. EACH DESIGNER SHALL FURNISH THE REQUIRED THE PROJECT INFORMATION FOR THE PLAN DATA SHEET. IF ENERGY COST BUDGET METHOD, ANNUAL ENERGY COST BUDGET VS ALLOWABLE ANNUAL ENERGY COST BUDGET.

THERMAL ENVELOPE

METHOD OF COMPLIANCE: SEE A6 SERIES
■ PRESCRIPTIVE ____% GLAZED WALL AREA
☐ PERFORMANCE ☐ ENERGY COST BUDGET

ROOF/CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
SKYLIGHTS IN EACH
U-VALUE OF SKYLIGHT
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY
SHADING COEFFICIENT
PROJECTION FACTOR
LOW E REQUIRED
DOOR R-VALUES

WALLS ADJACENT TO UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY
LOW E REQUIRED, IF
DOOR R-VALUES

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL
R-VALUE OF INSULATION

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY
U-VALUE OF TOTAL ASSEMBLY
R-VALUE OF INSULATION
HORIZONTAL/VERTICAL REQUIREMENTS
SLAB HEATED

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐ PRESCRIPTIVE ☐ PERFORMANCE ☐ ENERGY COST BUDGET
LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN
NUMBER OF LAMPS IN FIXTURE
BALLAST TYPE USED IN THE
NUMBER OF BALLASTS IN
TOTAL WATTAGE PER FIXTURE
TOTAL INTERIOR WATTAGE SPECIFIED
TOTAL EXTERIOR WATTAGE SPECIFIED
ALLOWED
EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

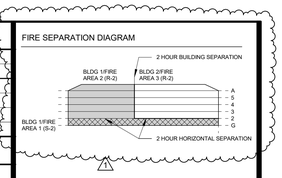
SEE ELECTRICAL DRAWINGS

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:
METHOD OF COMPLIANCE:
☐ PRESCRIPTIV ☐ ENERGY COST BUDGET
E
CLIMATE ZONE
THERMAL ZONE
WINTER DRY BULB
SUMMER DRY BULB
INTERIOR DESIGN CONDITIONS
WINTER DRY BULB
SUMMER DRY BULB
RELATIVE HUMIDITY
BUILDING HEATING LOAD
BUILDING COOLING LOAD
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF
HEATING EFFICIENCY
COOLING EFFICIENCY
HEAT OUTPUT OF UNIT
COOLING OUTPUT OF UNIT
BOILER
TOTAL BOILER OUTPUT ___ OVERSIZED, STATE REASON.
CHILLER
TOTAL CHILLER CAPACITY. IF OVERSIZED, STATE REASON.
LIST EQUIPMENT EFFICIENCIES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
MOTOR HORSEPOWER
NUMBER OF PHASES
MINIMUM EFFICIENCY
MOTOR TYPE
OF POLES

SEE MECHANICAL DRAWINGS

FIRE SEPARATION DIAGRAM



PERMIT SET

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

APPENDIX B - APARTMENTS - AREA B

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A0.1c SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/9/2021 11:29:20 AM
COMM. NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

LIFE SAFETY INFO: GARAGE

PRIMARY USE GROUP:	S-2
TOTAL BLDG. AREA:	26,174 s.f.
ALLOW. AREA for S-2 USE GROUP:	316,000 (TABLE 506.2)
CONSTRUCTION TYPE:	TYPE IB
SPRINKLED:	YES, NFPA 13
STANDPIPE:	YES
ACTUAL HEIGHT:	11'-4" (1 STORY)
ALLOWABLE HEIGHT	180' ABOVE GRADE PLANE (TABLE 504.3) 12 STORIES (TABLE 504.4)

ASSEMBLY REQUIREMENTS (TABLE 601)

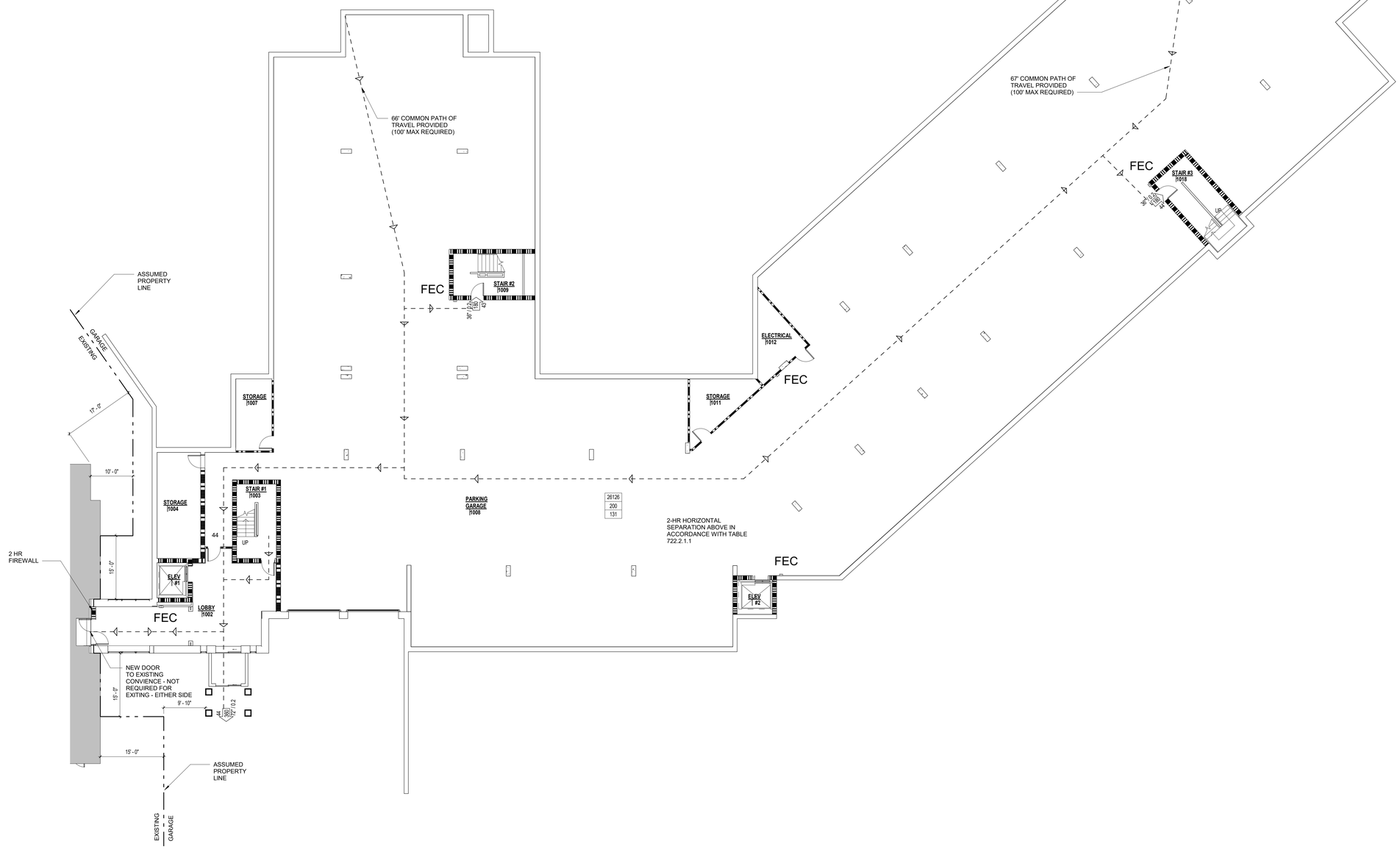
BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	2 HR	TABLE 722.1.1.1
FLOOR CONST.	2 HR	NA
STR. FRAME	2 HR	NA
ROOF CONST.	1 HR	NA
CORRIDOR WALLS	0 HR	NA
STAIRWELL/SHAFT	2 HR	TABLE 722.1.1.1

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS
26,126 SF / 200 SF PER OCCUPANT (TABLE 1004.1.2) = 131 PEOPLE

PARKING GARAGE
- ENCLOSED AND VENTILATED PER IBC 2018
- 400' ALLOWABLE TRAVEL DISTANCE PER TABLE 1017.2
- 100' ALLOWABLE COMMON PATH OF TRAVEL PER TABLE 1006.2.1
- 3 EXITS PROVIDED THIS LEVEL PER TABLE 1006.3.1
- 52 PARKING SPACES INCLUDING 3 ACCESSIBLE SPACES



1 GARAGE LIFE SAFETY PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000	FLOOR AREA IN S.F.
100	ALLOWABLE S.F. PER PERSON
30	OCCUPANT LOAD

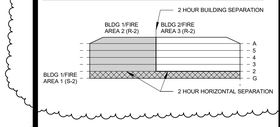
MEANS OF EGRESS

123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

45 / .2
123
123
ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT
CODE ALLOWED WIDTH / PERSON
CAPACITY OF EGRESS COMPONENT
ACTUAL OCCUPANT LOAD

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI
TIMOTHY A. MUELLER
NUMBER A-6802
REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

GARAGE LIFE SAFETY PLAN

COMM. NO. 19132.00	DATE JANUARY 18, 2021
DRAWING A0.2	SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/9/2021 11:41:38 AM
COMM NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

LIFE SAFETY INFO: SECOND FLOOR - AREA A

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	10,301 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 102

LIFE SAFETY INFO: SECOND FLOOR - AREA B

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	13,879 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

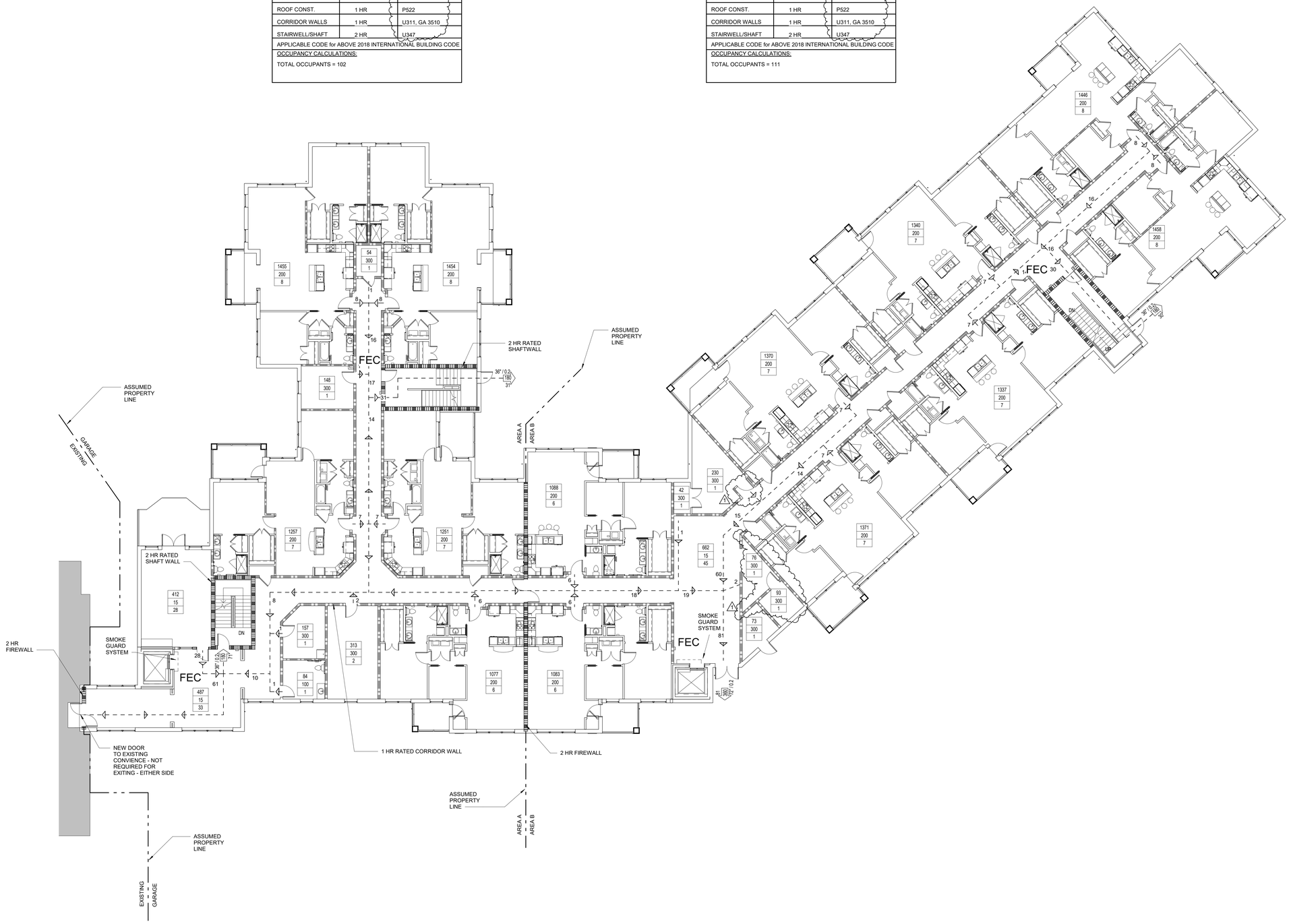
ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 111



1 SECOND FLOOR LIFE SAFETY PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000 — FLOOR AREA IN S.F.
100 — ALLOWABLE S.F. PER PERSON
30 — OCCUPANT LOAD

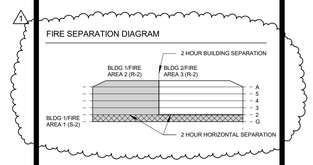
MEANS OF EGRESS

123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT
45 / .2 — CODE ALLOWED WIDTH / PERSON
123 — CAPACITY OF EGRESS COMPONENT
123 — ACTUAL OCCUPANT LOAD

1 FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI — TIMOTHY A. MUELLER — NUMBER A-6802 — REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
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704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	KLM
CHECKED BY	:	Checker
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

SECOND FLOOR LIFE SAFETY PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A0.3	____ OF ____

MENU

CAD0 VERSION

PLOT SCALE

PLOT DATE
2/10/2021
9:53:09 AM

SAVE DATE

COMM NO.

DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

LIFE SAFETY INFO: SECOND FLOOR - AREA A

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	9,821 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 66

LIFE SAFETY INFO: SECOND FLOOR - AREA B

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	13,879 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

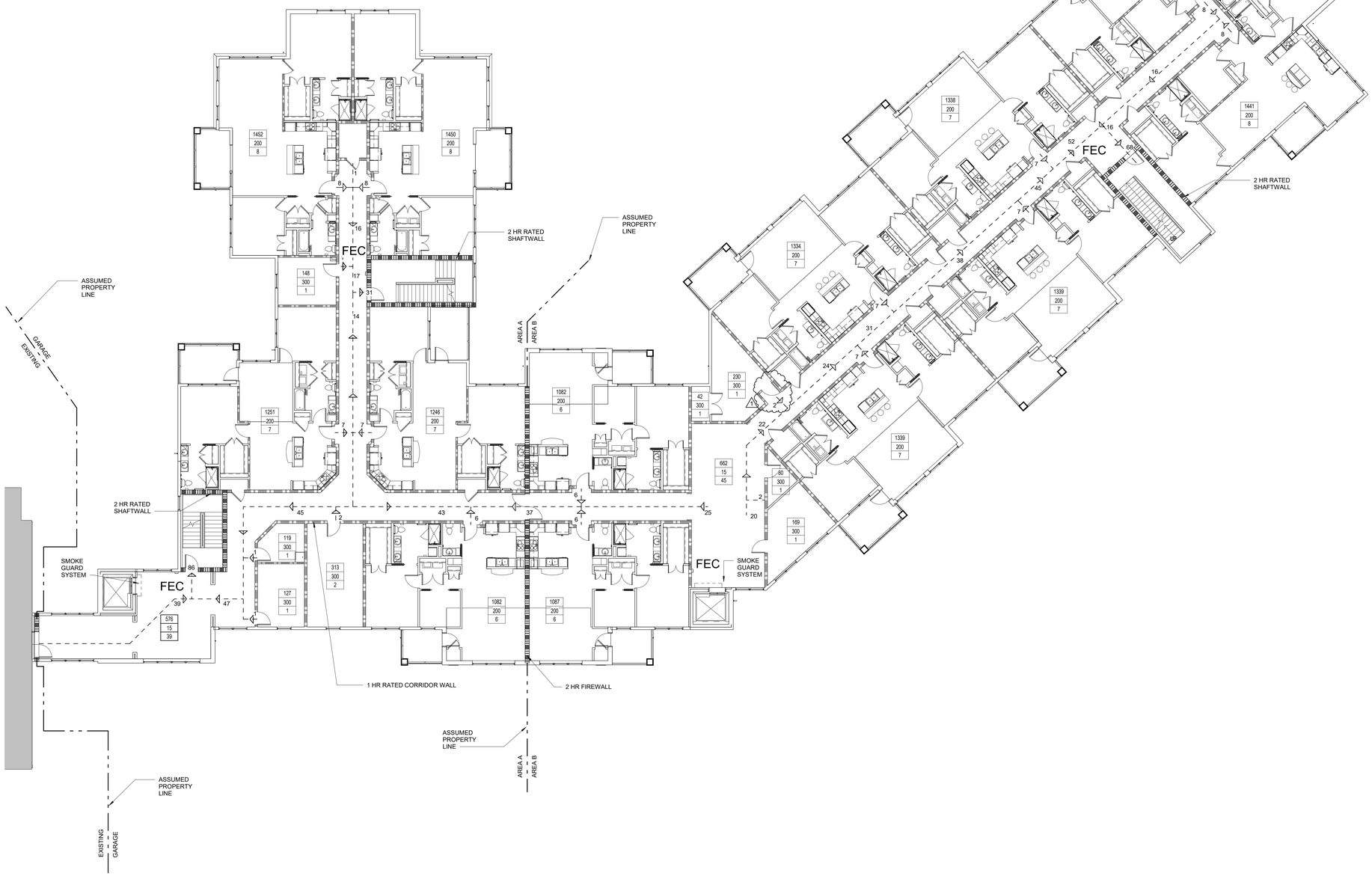
ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 117



1 THIRD FLOOR LIFE SAFETY PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000	FLOOR AREA IN S.F.
100	ALLOWABLE S.F. PER PERSON
30	OCCUPANT LOAD

MEANS OF EGRESS

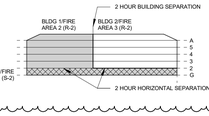
123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

45 / .2 — ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT
CODE ALLOWED WIDTH / PERSON
123 / 123 — CAPACITY OF EGRESS COMPONENT / ACTUAL OCCUPANT LOAD

1

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI — TIMOTHY A. MUELLER — NUMBER A-6802 — REGISTERED ARCHITECT — 2/10/21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

THIRD FLOOR LIFE SAFETY PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A0.4 SHEET ____ OF ____

MENU

CAD0 VERSION

PLOT SCALE

PLOT DATE
2/10/2021
9:57:44 AM

SAVE DATE

COMM. NO.

DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

LIFE SAFETY INFO: SECOND FLOOR - AREA A

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	9,821 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601)

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 66

LIFE SAFETY INFO: SECOND FLOOR - AREA B

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	13,879 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

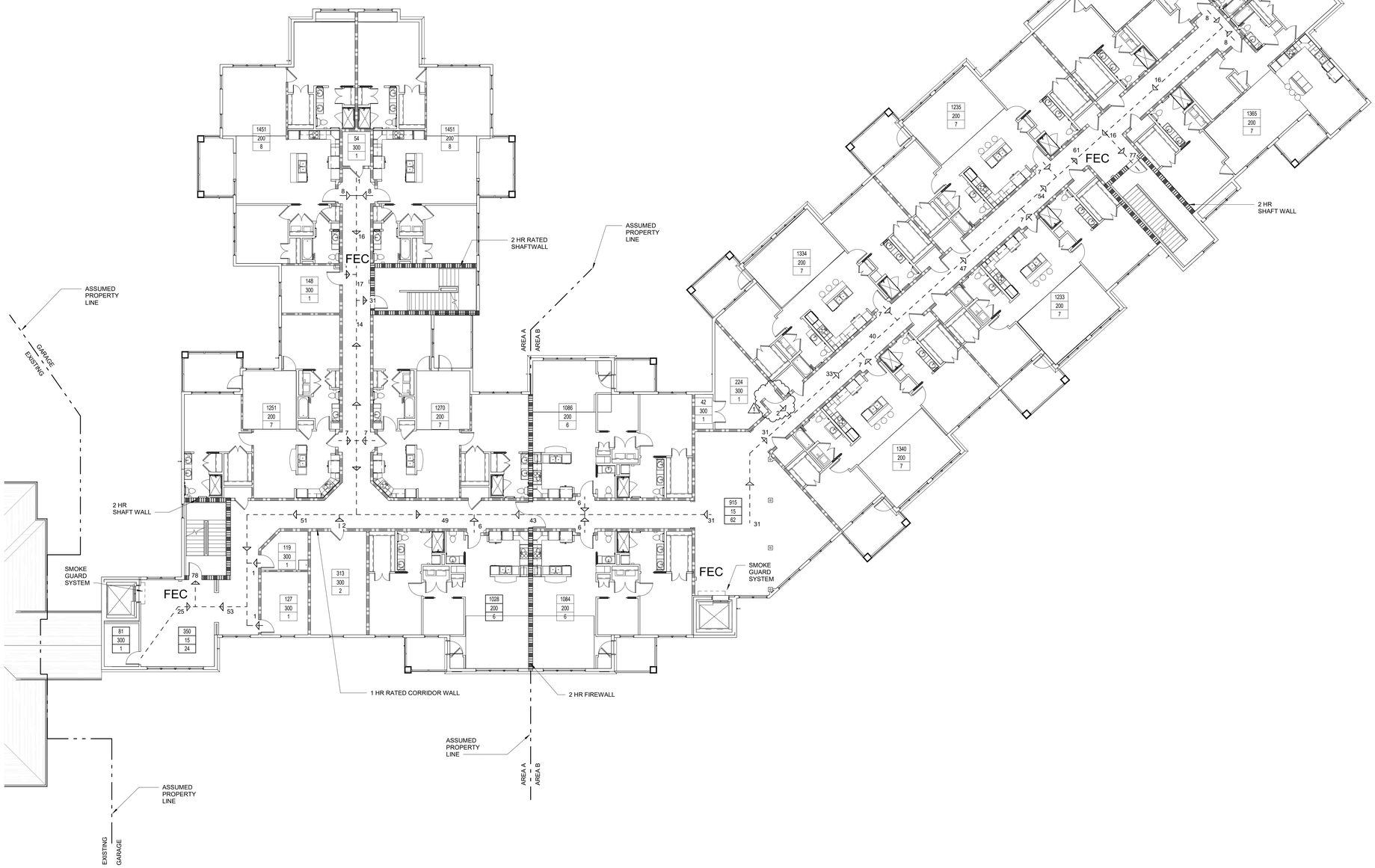
ASSEMBLY REQUIREMENTS (TABLE 601)

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 117



1 FOURTH FLOOR LIFE SAFETY PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000 — FLOOR AREA IN S.F.
100 — ALLOWABLE S.F. PER PERSON
30 — OCCUPANT LOAD

MEANS OF EGRESS

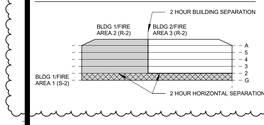
123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

45 / 2
123
123
ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT
CODE ALLOWED WIDTH / PERSON
CAPACITY OF EGRESS COMPONENT
ACTUAL OCCUPANT LOAD

1

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI TIMOTHY A. MUELLER NUMBER A-6802 REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	: DAS
PROJECT ARCHITECT	: GMJ
PROJECT ENGINEER	:
DRAWN BY	: KLM
CHECKED BY	: Checker
APPROVED BY	:

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

FOURTH FLOOR LIFE SAFETY PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING A0.5	SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/10/2021 9:56:03 AM
SAVE DATE
COMM. NO.
DRAWING NO.

LIFE SAFETY INFO: SECOND FLOOR - AREA A

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	9,821 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 66

LIFE SAFETY INFO: SECOND FLOOR - AREA B

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	13,879 s.f.
ALLOW. AREA for R-2 USE GROUP:	21,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	40'-7" (4 STORIES)
ALLOWABLE HEIGHT	50' + 20' = 60' MAX PER 13R(*) (4 STORIES)

* ALLOWABLE AREA & HEIGHT INCORPORATES INCREASE FOR INCLUSION OF SPRINKLER SYSTEM per. IBC 504.2 and FRONTAGE INCREASE PER IBC 506.3

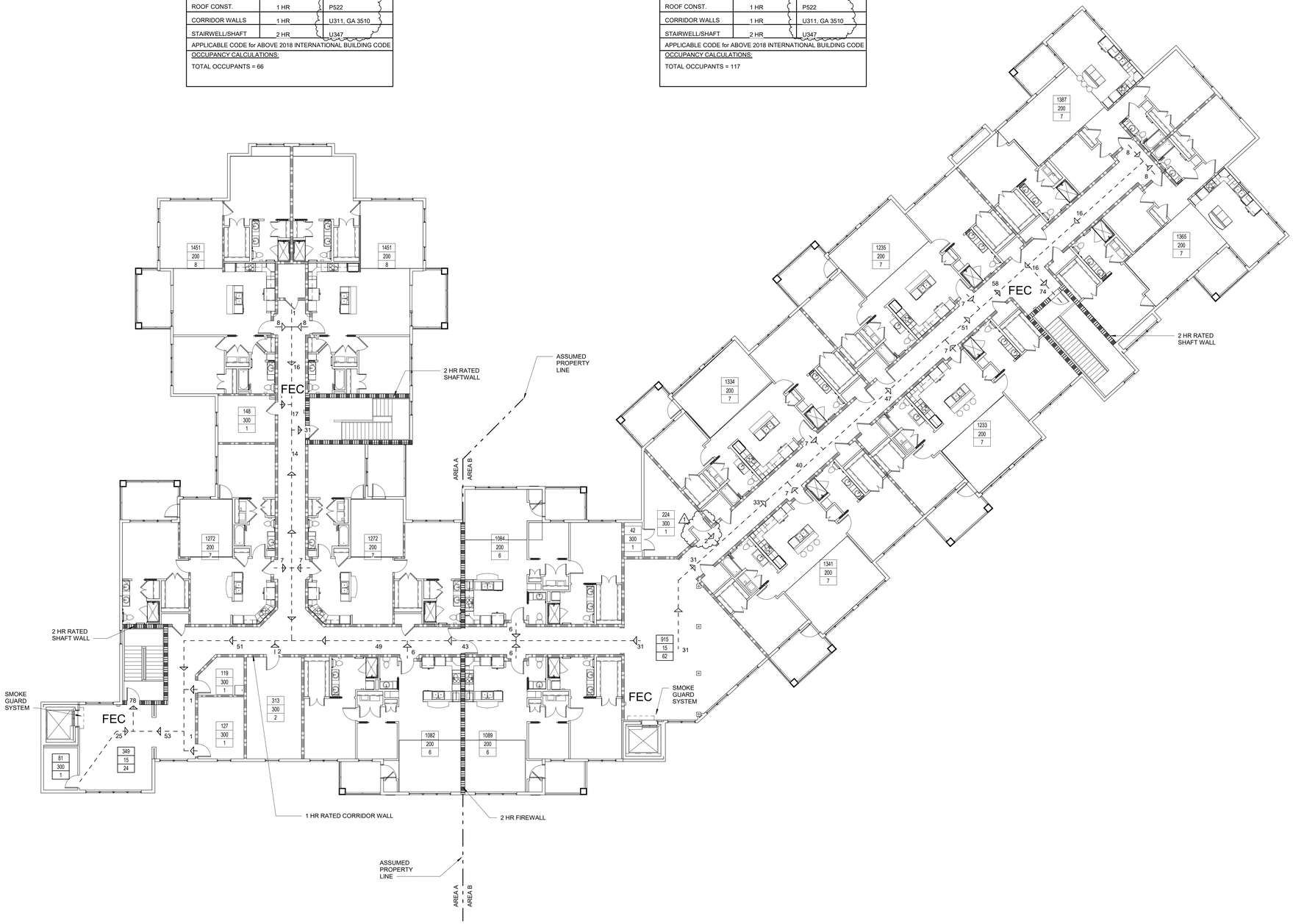
ASSEMBLY REQUIREMENTS (TABLE 601) 1

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	NA
ROOF CONST.	1 HR	P522
CORRIDOR WALLS	1 HR	U311, GA 3510
STAIRWELL/SHAFT	2 HR	U347

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 117



1 FIFTH FLOOR LIFE SAFETY PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000 — FLOOR AREA IN S.F.
100 — ALLOWABLE S.F. PER PERSON
30 — OCCUPANT LOAD

MEANS OF EGRESS

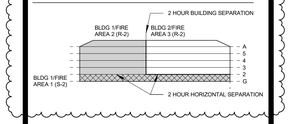
123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

45 / 2 — ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT
CODE ALLOWED WIDTH / PERSON
123 / 123 — CAPACITY OF EGRESS COMPONENT / ACTUAL OCCUPANT LOAD

1

FIRE SEPARATION DIAGRAM



PERMIT SET

STATE OF MISSOURI — TIMOTHY A. MUELLER — NUMBER A-6802 — REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

FIFTH FLOOR LIFE SAFETY PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A0.6 — SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE
2/10/2021 9:58:45 AM
SAVE DATE
COMM. NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

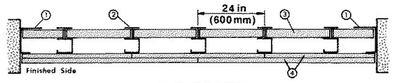
UL U438 - 2 HR ASSEMBLY

Design No. U438

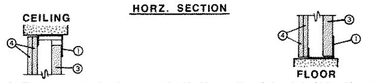
March 12, 2020

Nonbearing Wall Rating — 2 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



HORZ. SECTION



1. **Floor and Ceiling Runners —** "J" -shaped runner, 2-1/2 in. wide with unequal legs of 1 in. and 2 in., fabricated from 24 MSG galv steel (min 20 MSG when Item 4B is used). Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.

2. **Steel Studs —** "C-H" -shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used). Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4B, 4D, 4E is used).

2A. **Steel Studs —** (Not shown)- "E" -shaped studs installed in place of "C-H" -shaped studs (Item 2) to secure the closure liner panels at the ends of walls. Fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used), 2-1/2 in. wide, with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 in. less than floor to ceiling height. Sill and lintel of opening formed with "J" -shaped runners (Item 1) secured to "E" -shaped studs with angle clips and steel screws.

3. **Gypsum Board* —** 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. or 600 mm (for metric spacing) widths. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" -shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" -runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC.
CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX.

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX.

4. **Gypsum Board* —** 1/2 in. thick, 4 ft. or 1200 mm (for metric spacing) wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC along the edges and in the field of the boards. Outer or face layer attached to studs and "J" -runners with 1-5/8 in. long Type S steel screws spaced 12 in. along the edges and in the field of the boards, staggered from screws in inner layer. Joints between inner and outer layers staggered. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound.

As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. Type S steel screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J" runners over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC in the field, along the vertical edges and to the floor and ceiling runners. Outer layer secured to inner layer wallboard with 1-1/2 in. long Type G steel screws located midway between studs and 1 in. from the horizontal joint.

AMERICAN GYPSUM CO — Types AG-C .

CABOT MANUFACTURING ULC — Type C

CERTAINTEED GYPSUM INC — Type C

CGC INC — Type C, IP-X2, or WRC.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A.

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C.

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSMR-C.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C.

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Type C, IP-X2 or WRC.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C, IP-X2 or WRC.

4A. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CGC INC — Type AR, IP-AR, IP-X1, SCX, UILX, or WRX.

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCX, ULX or WRX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

4B. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 or 4A for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips (Item 6) required behind vertical joints.
RAY-BAR ENGINEERING CORP — Type R8-LBG

4C. **Gypsum Board* —** (As an alternate to Item 4, 4A, 4B) — 5/8 in. thick. Two layers installed as described in Item 4.
NATIONAL GYPSUM CO — Type FSMR-C.

4D. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints. To be used with Lead Batten Strips (see Item 6B) or Lead Discs (see Item 6C).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4E. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4F. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 8 in. OC when installed vertically and staggered min. 8 in. from base layer screws or 8 in. OC when installed horizontally and staggered min. 6 in. from base layer screws. Horizontal joints between inner and outer layers need not to be staggered. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. When used in widths other than 48 in., gypsum panels to be installed horizontally.
UNITED STATES GYPSUM CO — Type ULIX.

5. **Batts and Blankets* —** (Optional) — (Not shown) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt material bearing the UL Classification Marking as to Fire Resistance.

5A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS745, INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

5B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

5C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means acceptable to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft^3.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. **Lead Batten Strips —** For Use with Item 4B - (Not Shown) - Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs or Tabs —** (Not Shown) - Used in lieu of or in addition to the lead batten strips (Item 6) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6B. **Lead Batten Strips —** (Not Shown, for use with Item 4D) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

6C. **Lead Discs —** (Not Shown, for use with Item 4D) Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

GA #3510 - 1 HR ASSEMBLY

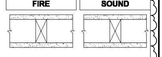
WALLS AND INTERIOR PARTITIONS, WOOD-FRAMED

GA FILE NO. WP 3510	GENERIC	1 HOUR FIRE	35 to 39 STC SOUND

GYPSUM WALLBOARD, WOOD STUDS

One layer 5/8" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to each side of 2 x 4 wood studs 24" o.c. with 6d coated nails, 1 7/8" long, 0.0915" shank, 1/4" heads, 7" o.c.

Joints staggered 24" on opposite sides. (LOAD-BEARING)



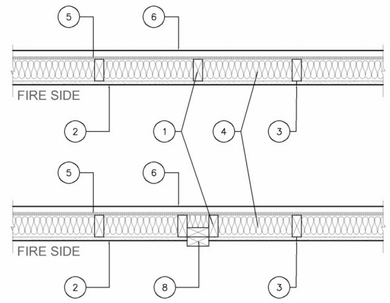
Thickness:	4 7/8"
Approx. Weight:	7 psf
Fire Test:	UL R3501-47, -48, 9-17-66, Design U309; UL R1316-129, 7-22-70, UL Design U314
Sound Test:	NGC 2404, 10-14-70

UL U356 - 1 HR ASSEMBLY

Design No. U356

March 11, 2020

Bearing Wall Rating - 1 Hr Rating Exposed to Fire on Interior Face Only
Bearing Wall Rating — 1 Hr Rating Exposed to Fire on Exterior Face (See Item 6E)
Finish Rating — 23 Min or 25 Min (See Item 2C)



1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When **Mineral and Fiber Boards*** (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.

2. **Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, GS12 or U305.** Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.
When Item 7, 7B, 7C, 7D or 7E **Steel Framing Members***, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.
When Item 7A **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.
AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, GS12 or U305, supplied by the Classified Companies listed below shown in the **Gypsum Board*** (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CGC INC

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2B. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X, Type X-1, Easi-Lite Type X-2

GEORGIA-PACIFIC GYPSUM L L C — Types X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type X ComfortGuard Sound Deadening Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS.

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2C. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in.and 4 in. from edges of board. Finish Rating is 25 min.
CABOT MANUFACTURING ULC — 5/8 Type X, Type Blueglass Exterior Sheathing

GEORGIA-PACIFIC GYPSUM L L C — Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS

2D. **Gypsum Board* —** (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.
NATIONAL GYPSUM CO — Type SBWB

2E **Gypsum Board* —** (As an alternate to Items 2 through 2D) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES.

2F. **Gypsum Board* —** (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CERTAINTEED GYPSUM INC — Type SilentFX

2G. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2H. **Gypsum Board* —** (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

2I. **Gypsum Board* —** (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

2J. **Gypsum Board* —** (As an alternate to Item 2) - 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread steel screws spaced a max 8 in. OC with the last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum boards are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1(finish rating 26 min), Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2, Type EGRG or GlasRoc or GlasRoc Sheathing (finish rating 23 min)

3. **Joints and Fastener Heads —** (Not Shown) — Gypsum board joints covered with tape and joint compound. Fastener heads covered with joint compound.

4. **Batts and Blankets* —** Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).
See **Batts and Blankets*** (BKNV) Category in the Building Materials Directory and **Batts and Blankets*** (BZJZ) Category in the Fire Resistance Directory for names of Classified Companies.

4A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735 and INS745 for use with wet or dry application. INS515LD, INS541LD, INS735, INS745, INS765LD, and INS773LD are to be used for dry application only.

4B. **Fiber, Sprayed* —** As an alternate to Item 4 and 4A — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft^3.
NU-WOOL CO INC — Cellulose Insulation

4C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

4D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — Spray applied, granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Wood Structural Panel Sheathing —** Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing". Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

5A. **Mineral and Fiber Boards* —** As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistive barrier may be applied over the Mineral and Fiber Boards.

6. **Exterior Facings —** Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:

A. **Vinyl Siding — Molded Plastic* —** Contoured rigid vinyl siding having a flame spread value of 20 or less.
See **Molded Plastic** (BTAT) category in the Building Materials Directory for names of manufacturers.

B. **Particle Board Siding —** Hardboard exterior sidings including patterned panel or lap siding.

C. **Wood Structural Panel or Lap Siding —** APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

D. **Cementitious Stucco —** Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.

E. **Brick Veneer —** Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie: ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.

F. **Exterior Insulation and Finish System (EIFS) —** Nom 1 in. **Foamed Plastic*** insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See **Foamed Plastic** (BRYX and CCVW) categories for names of Classified companies.

G. **Siding —** Aluminum or steel siding attached over sheathing to studs.

H. **Fiber-Cement Siding —** Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

I. **Wall and Partition Facings and Accessories* —** Stone veneer is mortar bonded to a lath, scratch coat and water resistant barrier applied to sheathing, installed in accordance with the manufacturers installation instructions, and meeting the requirements of local code agencies.
ELDORADO STONE OPERATIONS L L C — Type Eldorado Stone

J. **Cementitious Backer Units —** 1/2 in. or 5/8 in., min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum 3/4 in., spaced a max of 8 in. OC. Horizontal joints need not be backed by framing. When Cementitious Backer Units are used, the rating is applicable with exposure on either face. Cementitious Backer Units for use as substrate for exterior finishes such as ceramic tile, slate, marble, natural stone, manufactured stone, thin brick, or Portland cement or synthetic stucco.
NATIONAL GYPSUM CO — Type PermaBase

6A. **Building Units* — As an alternate to Exterior Facing Item 6 —** Insulated steel panels, 12 through 42 in. wide. Attached over sheathing through retainer clips to studs or support steel with No. 14 hex head self-tapping screws located at each joint in the concealed lip of the units and spaced in accordance with the structural design requirements. KINGSPAN INSULATED PANELS INC — Types 200, 300, 400, 900, or KS series, 2 through 6 in. thickness; CWP-V, H, 2 through 3 in. nominal thickness or Designwall 2000 or Designwall 4000, 2 and 3 in. nominal thickness.

7. **Steel Framing Members* —** (Optional, Not Shown) — Furring Channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7A) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

7A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to interior side of studs. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax.

7B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

7C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam head through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

8. **Non-Bearing Wall Partition Intersection —** (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

PERMIT SET

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	KLM
CHECKED BY	:	AAT
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

FIRE RATED ASSEMBLIES

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A0.8	____ OF ____

MENU

CAD VERSION

PLOT SCALE

PLOT DATE
2/10/2021
9:39:28 AM

SAVE DATE

COMM. NO.

DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

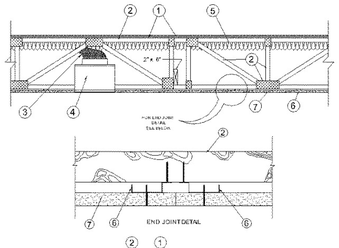
UL U347 - 2 HR ASSEMBLY

Design No. L563

February 05, 2021

Unrestrained Assembly Rating - 1 Hr

Finish Rating - 25 Min (See Items 5 or 5A and 7), 20 Min. (See Items 6E and 7A)



ALTERNATE INSULATION PLACEMENT

1. **Flooring System —** The flooring system shall consist of one of the following:

System No. 1

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 2

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed

features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Curl 55/025

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Curl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Curl 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Floor - Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring — Min Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting

ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 1/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

LATICRETE SUPERCAP L L C — Types LRK, HSLRK

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* - (Optional) — Nom 3/8 in. thick floor mat material loose laid over the subfloor.

GRASSWORX L L C — Type SC50

System No. 5

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.

ELASTIZELL CORP OF AMERICA — Type FF

System No. 6

Deleted.

System No. 7

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.2 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5.5 gal of water.

AERIX INDUSTRIES — Floor-Topping Mixture

System No. 8

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping mixture to 2.5 cu ft of sand.

ULTRA QUIET FLOORS — Types UQF-A, UQF-Super Blend, UQF-Plus 200

System No. 9

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ring shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

MAXXON CORP — Type Maxxon Standard and Maxxon High Strength

Floor Mat Materials* - (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

MAXXON CORP — Type Encapsulated Sound Mat.

Floor Mat Reinforcement — (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath - (Optional) 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

Fiber Glass Reinforcement — (Optional) - 0.015 in. thick PVC coated non-woven fiberglass mesh, 0.368 lbs/sq. yd loose laid over the floor mat material.

System No. 10

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or non-veneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or non-veneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

FORMULATED MATERIALS LLC — Types FR-25, FR-30, and SiteMix

Floor Mat Material* — (Optional) Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.

FORMULATED MATERIALS LLC — Types M1, M2, M3, Elite, Duo, R1, and R2

System No. 11

Subflooring — Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 12

Subflooring — Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring — Min 3/4 in. thickness of lightweight insulating concrete with **Perlite Aggregate*** or **Vermiculite Aggregate***, or gypsum concrete.

See **Perlite Aggregate** (CFFX) and **Vermiculite Aggregate** (CJZZ) categories for names of manufacturers.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 13

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

ACG MATERIALS — AccuCrete® Types NexGen, Green, Prime and PrePour, AccuRadiant®, AccuLevel® Types G40, G50 and SD30

Floor Mat Material* — (Optional) — Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.

ACG MATERIALS — AccuQuiet® Types D13, D-18, D25, DX38, EM.125, EM.125S, EM.250, EM.250S, EM.375, EM.375S, EM.750, and EM.750S.

System No. 14

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 15

Subflooring — Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Plywood or non-veneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss.

Wall and Partition Facings and Accessories* - Sound Barrier (Optional) — Acoustic Sleeper pads stapled to the top of the subfloor, the bottom of the finish floor, or to 5/16 in. thick by 1-1/2 in. wide wood strips and centered over wood trusses. Acoustic Sleeper pads are to be spaced appropriately so that the finish floor panels are fastened through Acoustic Sleeper pads to trusses.
STC ARCHITECTURAL PRODUCTS L L C DBA STC SOUND CONTROL — Acoustic Sleeper

Finish Floor — Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Butt joints of panels have the option of being sealed with any UL Classified caulk or sealant found under - Fill, Void or Cavity Materials* (XHHW).

System No. 16

Subflooring - Structural Cement-Fiber Units* — Nominal 19 mm (3/4 in.) thick tongue and groove structural cement-fiber units. Long dimension of panels to be perpendicular to trusses with end joints staggered. Panels fastened to the trusses with #10 self-drilling, self-tapping cement board screws 1-3/4 in. long. Screws shall be spaced 6 in. OC along the perimeter of each sheet and 12 in. OC in the field of each sheet. Screws shall be spaced 1/2 in. from end joints and 1 in. from side joints.
ECTEK INTERNATIONAL INC — Armorxc Panel

Subflooring (Alternate) — Building Units* — Nom 3/4 in. thick, tongue and grooved boards. Long dimension of boards to be perpendicular to trusses with end joints staggered a min of 4 ft. and centered over the trusses. Boards secured to trusses with 1-1/4 in. long self- tapping screws spaced a max of 12 in. OC in the field with screws located 1 in. from long edge, and max 8 in. OC along the end joints with screws located 1/2 in. from end joint.
ECTEK INTERNATIONAL INC — Type MegaBoard

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 17

Structural Cement-Fiber Units* — For use with **UNITED STATES GYPSUM CO** Types C, IP-X2, IPC-AR and ULIX gypsum boards only. Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from

each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.
UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP

System No. 18

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring - Floor Topping Mixture* — Min 1 in. thickness of floor topping mixture having a min compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
SIKA DEUTSCHLAND GMBH — Type SCHONOX AP Rapid Plus

System No. 19

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
LOW & BONAR INC — EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus, 750 and 750 Plus.

Floor Mat Reinforcement — (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.

2. **Trusses —** Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when Ceiling Dampers* are not used. Min truss depth is 18 in. when Ceiling Damper* is used. Truss members secured together with min 0.036 (0.91 in. thick galvanized steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tool has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.

3. **Air Duct* (Optional) —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

4. **Ceiling Damper* (Optional). To be used with Air Duct Item 3. —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot.

LLOYD INDUSTRIES INC — Model CRD 50-BT, CRD 50-EA-BT, CRD 55-BT, CRD 55 EA-BT

UNITED ENERTECH CORP — Model C-S/R-WT-L, C-S/R-EA-L, C-S/R-BT, C-S/R-EA-BL

4A. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 13 in. long by 13 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Model CRD 50-BT-6, CRD 50-EA-BT-6, CRD 55-BT-6, CRD 55 EA-BT-6, CRD50-*****-X-BT-6

4B. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 12 in. long by 12 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturer's installation instructions provided with the damper.
AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot.

LLOYD INDUSTRIES INC — Model CRD 50-95BT, CRD 50-EA-95BT, CRD 55-95BT, CRD 55 EA-95BT

4C. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max size ceiling outlet in plenum box nom 16 in. long by 16 in. wide. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
CROWN PRODUCTS CO INC — Models CRD50-FGPB-4.2-CP, -6.0-CP; CRD50-FGPB-4.2-EA-CP, -6.0-EA-CP.

LLOYD INDUSTRIES INC — Models CRD 50- FGPB-4.2, - 4.2 NI, -6.0, -6.0 NI; CRD50-EA-FGPB-4.2, -4.2 NI, -6.0, -6.0 NI.

4D. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 15 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Models 45-CRD-LT-BT and 45-CRD-LTD-BT

4E. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 10 in. long by 10 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Model 45-LTD-95-BT-4

4F. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 96 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.

LLOYD INDUSTRIES INC — Model CRD50-*****-X-BT

4G. **Alternate Ceiling Damper* —** For use with min. 18 in. deep trusses. Max. nom area shall be 349 sq in. Max. overall length and width shall not exceed 18-11/16 in. by 18-11/16 in. with max. 16 in. by 16 in. register opening. Aggregate damper openings shall not exceed 175 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. An aluminum or steel grille (Item 9) shall be installed in accordance with installation instructions.
MIAMI TECH INC — Model Series RxCRD, RxCRDS or RxCRPD

4H. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
METAL-FAB INC — Models MSCD-HC and MRCD-HC

4I. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 14 in. long by 16 in. wide and 15 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 112 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
METAL-FAB INC — Model MCCD

5. **Batts and Blankets* —** (Optional) - Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When no insulation is installed in the concealed space resilient channels (Item 6) are spaced 24 in. OC. When the resilient channels (Item 6) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6A) are used, there is no limit in

1 SITE PLAN
1/32" = 1'-0"

NOTE: ARCHITECTURAL SITE PLAN IS FOR REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR ALL SITE INFORMATION.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. AMBERG NUMBER A-6802 REGISTERED ARCHITECT 2/8/21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

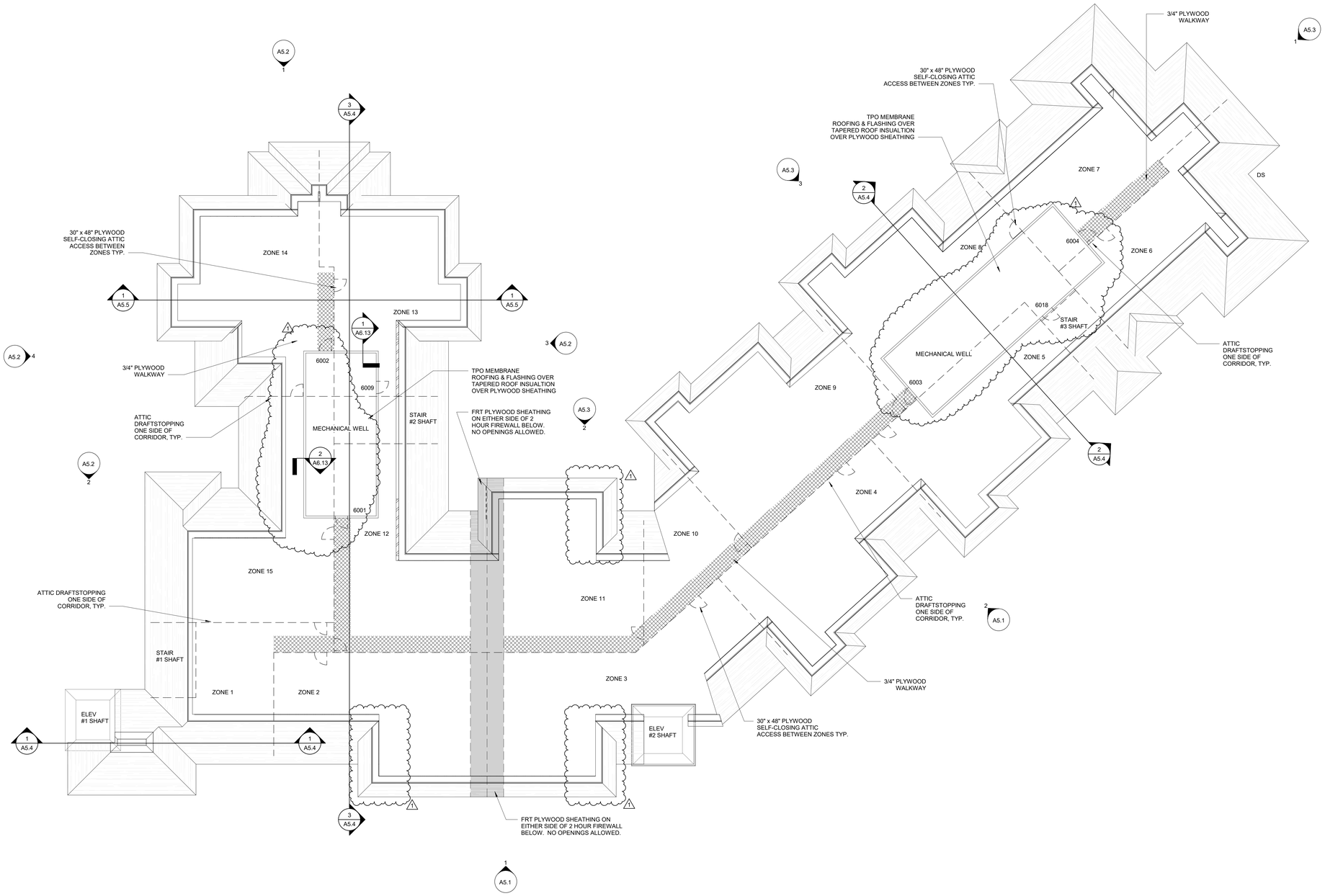
SITE PLAN

COMM. NO. 19132.00	DATE JANUARY 18, 2021
DRAWING A1.0	SHEET ____ OF ____

MENU

CAD VERSION
PLOT SCALE
PLOT DATE 2/9/2021 8:33:22 AM
SAVE DATE
COMM NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



1 ATTIC PLAN

3/32" = 1'-0"

MENU

CAD0 VERSION

PLOT SCALE

PLOT DATE
2/9/2021
2:30:19 PM

SAVE_DATE

COMM NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI
GREGORY J. MUELLER
NUMBER A-6802
REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

ATTIC PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A1.8

SHEET ____ OF ____

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt

ROOF VENT CALCULATIONS:
ZONE 14
1686 SF
MIN. REQ'D NET FREE AREA:
405 SI RIDGE
405 SI SOFFIT

REQUIRED:
48 LINEAR FEET SOFFIT VENT
23 LINEAR FEET RIDGE VENT * *

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, DECORATIVE ONLY

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN LIEU OF RIDGE VENT HERE.

ROOF VENT CALCULATIONS:
ZONE 13
1456 SF
MIN. REQ'D NET FREE AREA:
350 SI RIDGE
350 SI SOFFIT

REQUIRED:
42 LINEAR FEET SOFFIT VENT*
20 LINEAR FEET RIDGE VENT * *

*NOTE: INSTALL SOFFIT VENT ONLY FOR THE DISTANCE SHOWN ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE. (47 LF)

**INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 9
1728 SF
MIN. REQ'D NET FREE AREA:
415 SI RIDGE
414 SI SOFFIT

REQUIRED:
49 LINEAR FEET SOFFIT VENT*
23 LINEAR FEET RIDGE VENT * *

*LEAVE BALCONY CEILING OPEN TO MAIN ATTIC

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, BUT ONLY CUT ROOF DECKING BACK FOR THE DISTANCE INDICATED ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE

ROOF VENT CALCULATIONS:
ZONE 10
993 SF
MIN. REQ'D NET FREE AREA:
143 SI RIDGE
143 SI SOFFIT

REQUIRED:
17 LINEAR FEET SOFFIT VENT
8 LINEAR FEET RIDGE VENT * *

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, BUT ONLY CUT ROOF DECKING BACK FOR THE DISTANCE INDICATED ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE

ROOF VENT CALCULATIONS:
ZONE 12
1520 SF
MIN. REQ'D NET FREE AREA:
365 SI RIDGE
365 SI SOFFIT

REQUIRED:
43 LINEAR FEET SOFFIT VENT
21 LINEAR FEET RIDGE VENT * *

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, BUT ONLY CUT ROOF DECKING BACK FOR THE DISTANCE INDICATED ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE

ROOF VENT CALCULATIONS:
ZONE 11
1368 SF
MIN. REQ'D NET FREE AREA:
329 SI RIDGE
329 SI SOFFIT

REQUIRED:
39 LINEAR FEET SOFFIT VENT*
19 LINEAR FEET RIDGE VENT * *

*LEAVE BALCONY CEILING OPEN TO MAIN ATTIC

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, BUT ONLY CUT ROOF DECKING BACK FOR THE DISTANCE INDICATED ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE

ROOF VENT CALCULATIONS:
ZONE 8
1766 SF
MIN. REQ'D NET FREE AREA:
424 SI RIDGE
424 SI SOFFIT

REQUIRED:
50 LINEAR FEET SOFFIT VENT*
24 LINEAR FEET RIDGE VENT * *

*LEAVE BALCONY CEILING OPEN TO MAIN ATTIC

**NOTE: INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 7
1781 SF
MIN. REQ'D NET FREE AREA:
428 SI RIDGE
428 SI SOFFIT

REQUIRED:
51 LINEAR FEET SOFFIT VENT
24 LINEAR FEET RIDGE VENT * *

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN ADDITION TO RIDGE VENT HERE:

**NOTE: INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 15
1796 SF
MIN. REQ'D NET FREE AREA:
431 SI RIDGE
431 SI SOFFIT

REQUIRED:
51 LINEAR FEET SOFFIT VENT
24 LINEAR FEET RIDGE VENT * *

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN LIEU OF RIDGE VENT HERE.

**INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 6
1520 SF
MIN. REQ'D NET FREE AREA:
365 SI RIDGE
365 SI SOFFIT

REQUIRED:
43 LINEAR FEET SOFFIT VENT*
21 LINEAR FEET RIDGE VENT * *

*NOTE: INSTALL SOFFIT VENT ONLY FOR THE DISTANCE SHOWN ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE. (79 LF)

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN ADDITION TO RIDGE VENT HERE.

**NOTE: INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 5
1348 SF
MIN. REQ'D NET FREE AREA:
324 SI RIDGE
324 SI SOFFIT

REQUIRED:
38 LINEAR FEET SOFFIT VENT
18 LINEAR FEET RIDGE VENT

**NOTE: INSTALL MECH WELL VENT

ROOF VENT CALCULATIONS:
ZONE 4
1348 SF
MIN. REQ'D NET FREE AREA:
324 SI RIDGE
324 SI SOFFIT

REQUIRED:
38 LINEAR FEET SOFFIT VENT
18 LINEAR FEET RIDGE VENT * *

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN LIEU OF RIDGE VENT HERE.

ROOF VENT CALCULATIONS:
ZONE 1
1226 SF
MIN. REQ'D NET FREE AREA:
294 SI RIDGE
294 SI SOFFIT

REQUIRED:
35 LINEAR FEET SOFFIT VENT*
16 LINEAR FEET RIDGE VENT * *

*NOTE: INSTALL SOFFIT VENT ONLY FOR THE DISTANCE SHOWN ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE. (47 LF)

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN LIEU OF RIDGE VENT HERE.

ROOF VENT CALCULATIONS:
ZONE 2
1440 SF
MIN. REQ'D NET FREE AREA:
346 SI RIDGE
346 SI SOFFIT

REQUIRED:
41 LINEAR FEET SOFFIT VENT
20 LINEAR FEET RIDGE VENT * *

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN LIEU OF RIDGE VENT HERE.

ROOF VENT CALCULATIONS:
ZONE 3
1824 SF
MIN. REQ'D NET FREE AREA:
438 SI RIDGE
438 SI SOFFIT

REQUIRED:
52 LINEAR FEET SOFFIT VENT
25 LINEAR FEET RIDGE VENT * *

**NOTE: INSTALL RIDGE VENT OVER ENTIRE RIDGE, BUT ONLY CUT ROOF DECKING BACK FOR THE DISTANCE INDICATED ABOVE, CENTRALLY LOCATED IN THE ROOF ZONE

**NOTE: THE AMOUNT OF RIDGE VENT IN THIS ZONE DOES NOT MEET THE REQUIRED AREA. PROVIDE (1) SOLAR ROOF VENT IN ADDITION TO RIDGE VENT HERE.

1 ROOF PLAN
3/32" = 1'-0"

SHEET WAS LEFT OUT OF PREVIOUS SET

PERMIT SET

STATE OF MISSOURI · TIMOTHY A. MUELLER · NUMBER A-6802 · REGISTERED ARCHITECT · 1-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE
ROOF PLAN

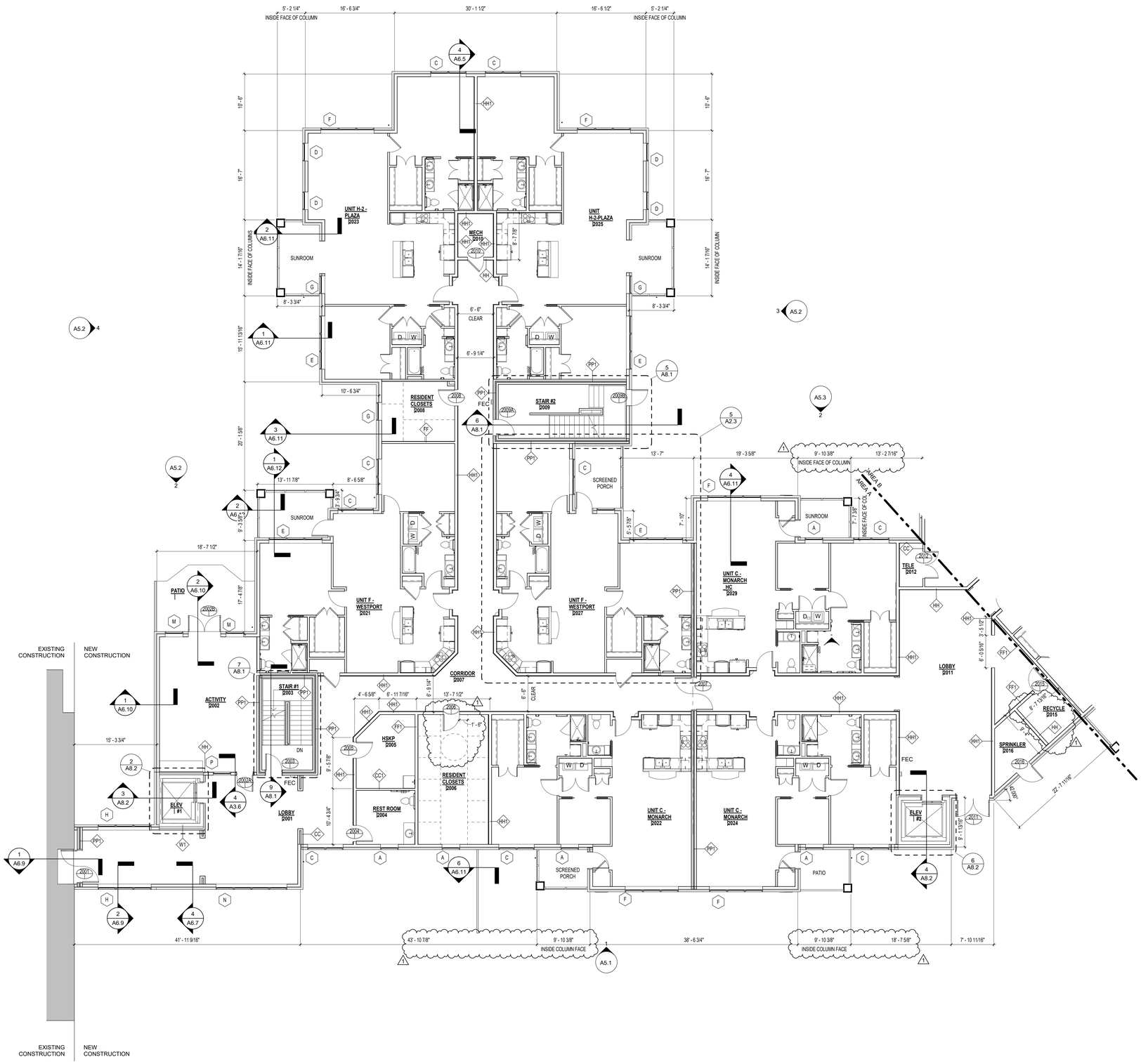
COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A1.9 SHEET ____ OF ____

MENU

CADD VERSION
PLOT SCALE
PLOT DATE
2/9/2021 2:37:00 PM
SAVE DATE
COMM. NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



SECOND FLOOR ENLARGED PLAN - AREA A

1/8" = 1'-0"

MENU

CAD® VERSION

PLOT SCALE

PLOT DATE
2/9/2021
1:53:25 PM

SAVE DATE

COMM NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. AMEND NUMBER A-6802 REGISTERED ARCHITECT
2-9-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

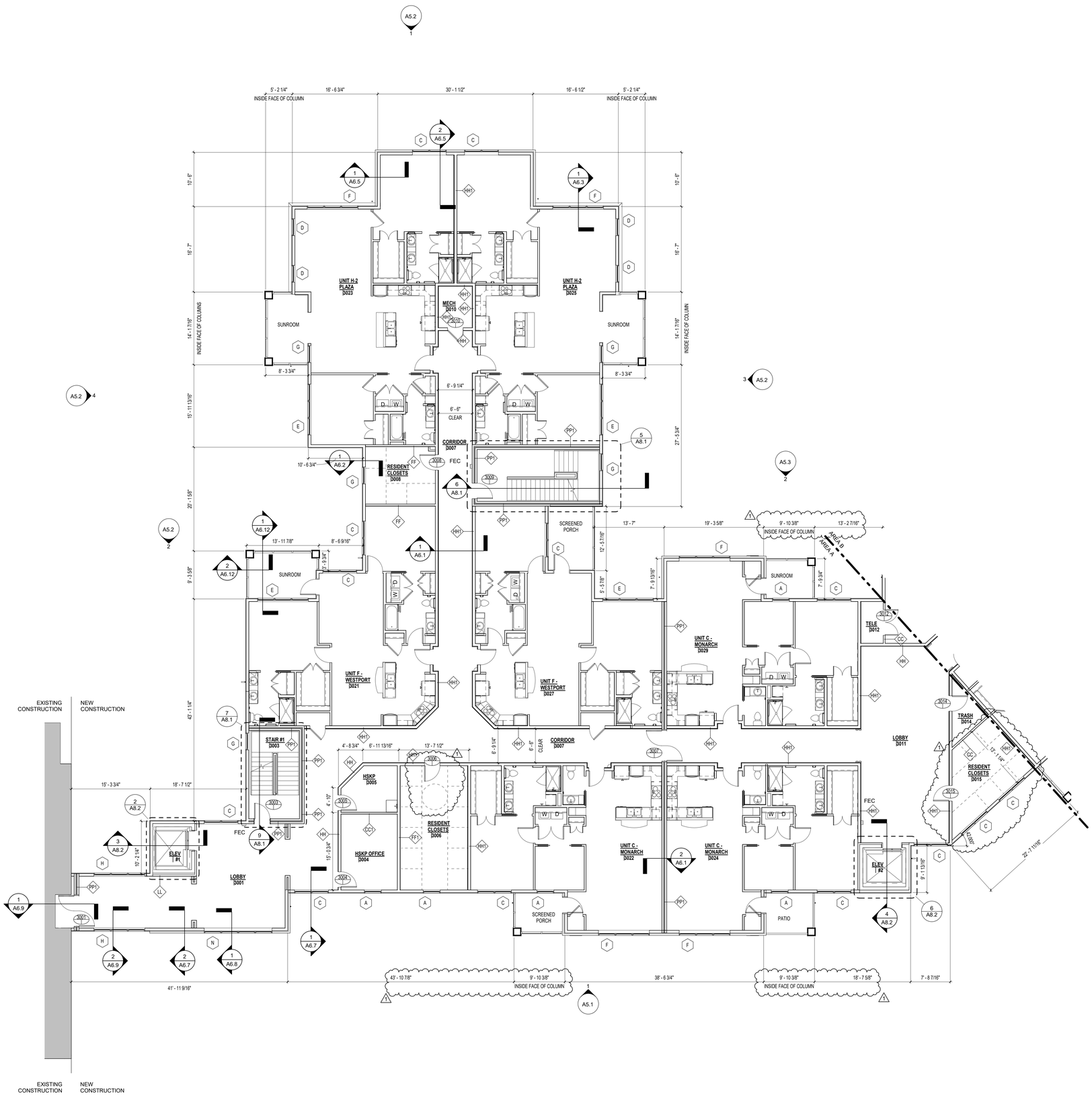
DRAWING TITLE

SECOND FLOOR ENLARGED PLAN - AREA A

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A1.11a

SHEET ____ OF ____



THIRD FLOOR ENLARGED PLAN - AREA A

1/8" = 1'-0"

MENU

CAD VERSION

PLOT SCALE

PLOT DATE
2/9/2021
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SAVE DATE

COMM NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI
TIMOTHY A. MUELLER
NUMBER A-8802
REGISTERED ARCHITECT
2-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

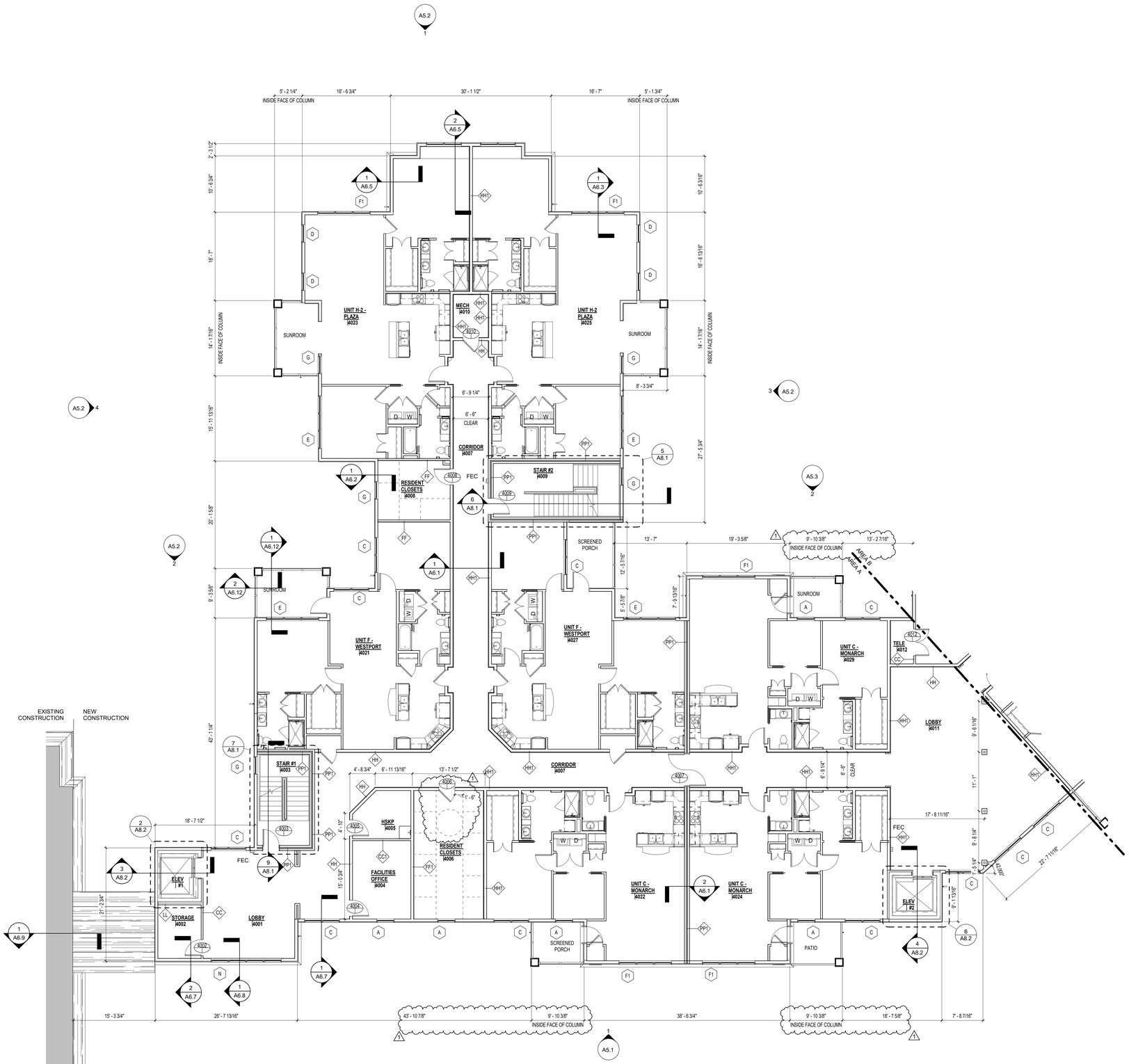
DRAWING TITLE

THIRD FLOOR ENLARGED PLAN - AREA A

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING
A1.12a

SHEET
____ OF ____



1 FOURTH FLOOR ENLARGED PLAN - AREA A

1/8" = 1'-0"

MENU

CADD VERSION

PLOT SCALE

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DRAWING NO.

PERMIT SET

STATE OF MISSOURI
TIMOTHY A. MUELLER
NUMBER A-9802
REGISTERED ARCHITECT
2-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

FOURTH FLOOR ENLARGED PLAN - AREA A

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A1.13a

SHEET ____ OF ____

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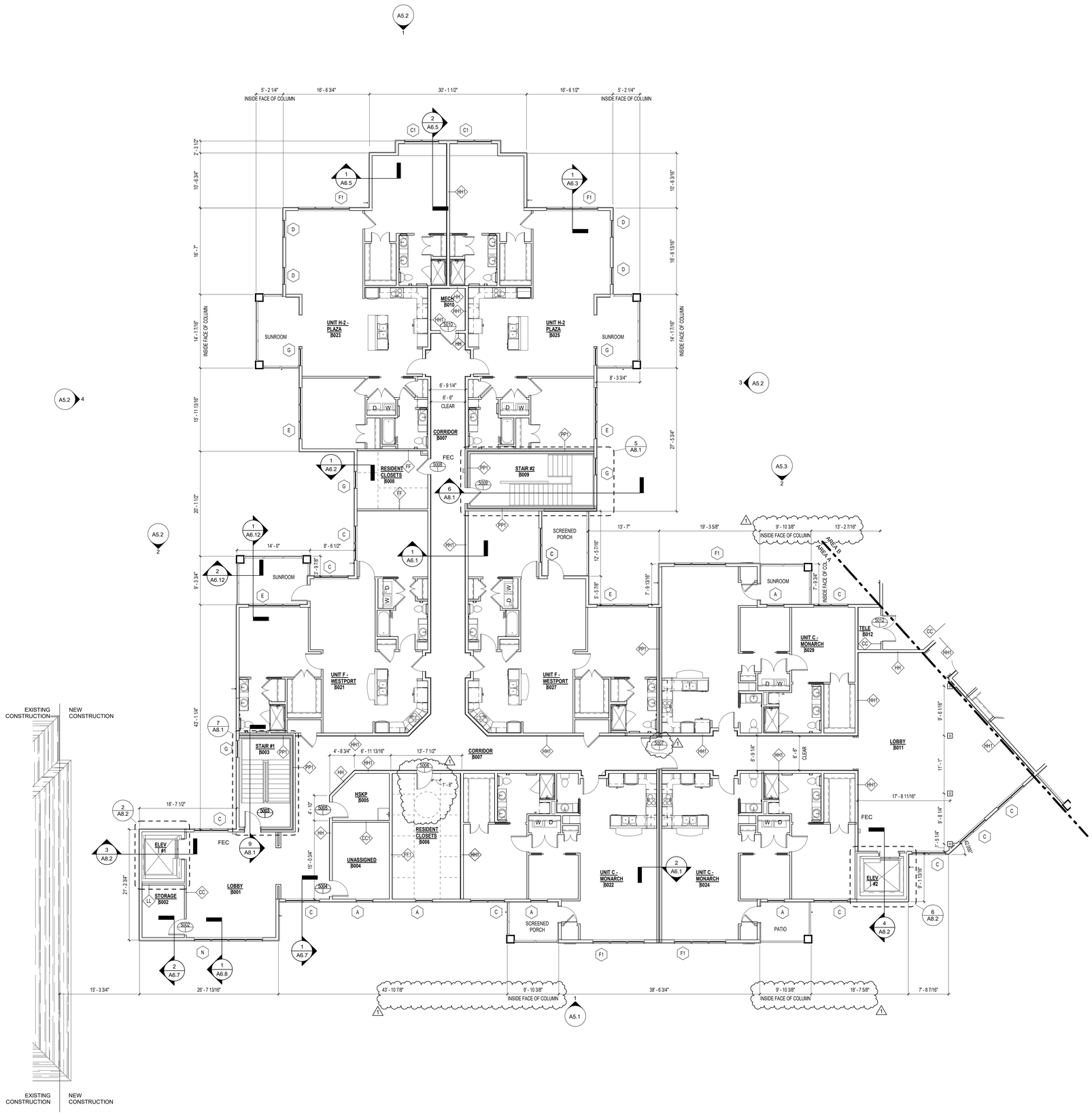

FIFTH FLOOR ENLARGED PLAN - AREA A

1 — 1/8" = 1'-0"

MENU

CAD5 VERSION

PLOT SCALE

PLOT DATE
2/9/2021
2:09:41 PM

COMM NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI
JUDITH A. MUELLER
NUMBER A-6802
REGISTERED ARCHITECT
2-9-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	Checker
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

FIFTH FLOOR ENLARGED PLAN - AREA A

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A1.14a

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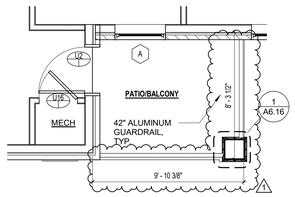
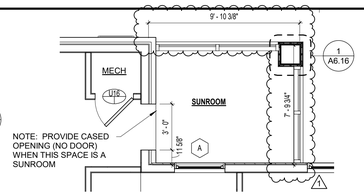
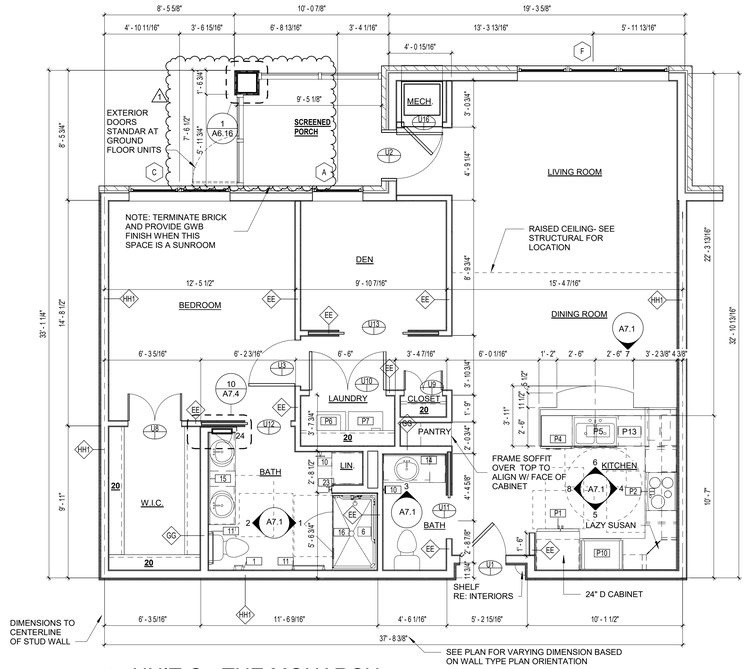


6 UNIT C PATIO
1/4" = 1'-0"

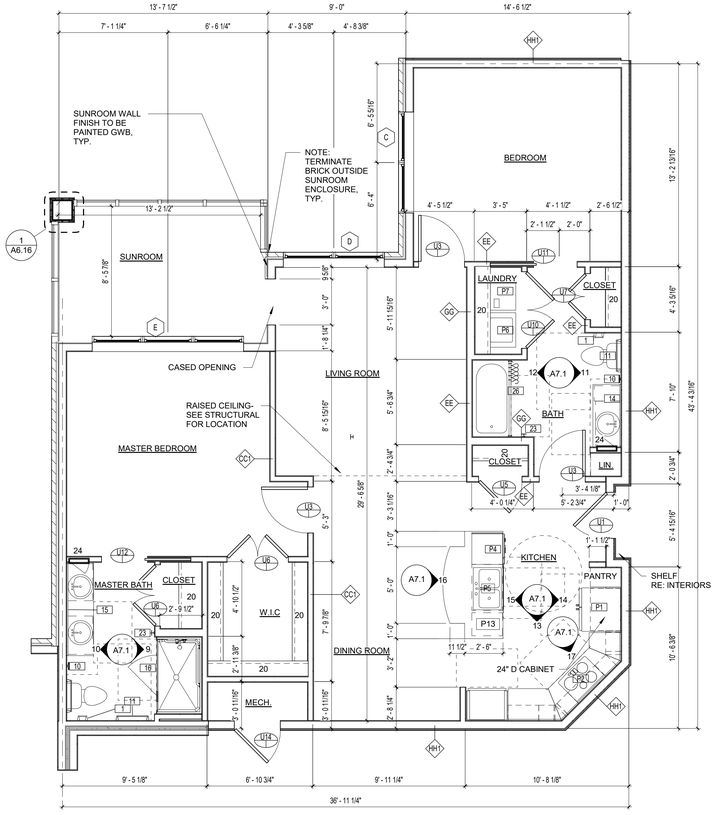
NOTE: SEE BUILDING PLANS FOR PATIO, SCREENED PORCH OR SUNROOM DESIGNATION



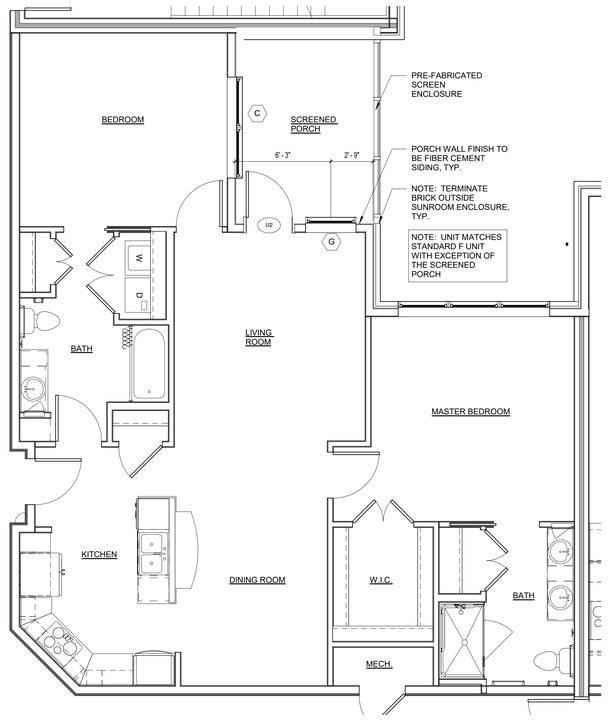
7 UNIT C SUNROOM
1/4" = 1'-0"



1 UNIT C - THE MONARCH
1/4" = 1'-0"

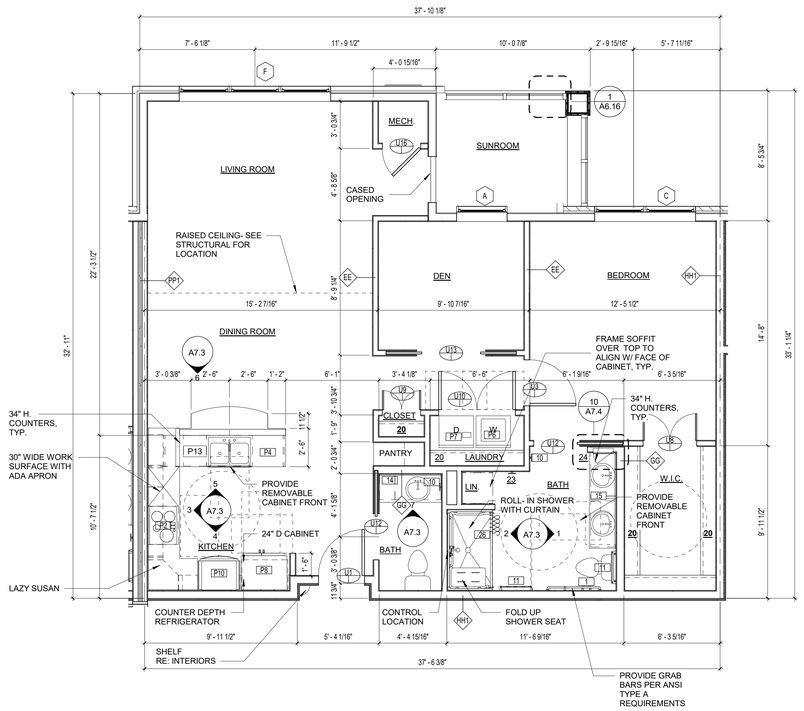


2 UNIT F - THE WESTPORT
1/4" = 1'-0"



5 UNIT F- THE WESTPORT (MIRRORED)

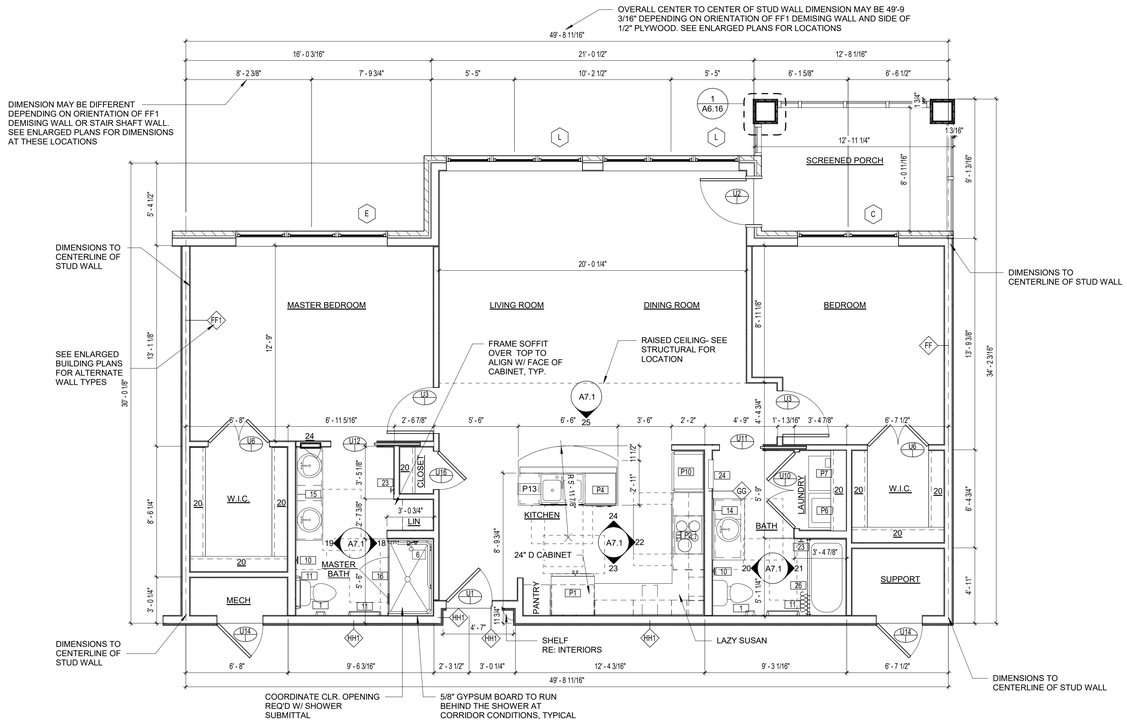
NOTE: SEE BUILDING PLANS FOR LOCATIONS



3 UNIT C - THE MONARCH__HC
1/4" = 1'-0"

SEE LEVEL 2 BUILDING PLAN FOR LOCATION

THIS UNIT TO COMPLY WITH ANSI TYPE A UNIT REQUIREMENTS



4 UNIT G - THE BROOKSIDE
1/4" = 1'-0"

1. ALL RESIDENT ROOMS SHALL COMPLY WITH ANSI TYPE B ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS. SEE A2.2 FOR ACCESSIBILITY DETAILS. UNIT C_HC SHALL ALSO COMPLY WITH ANSI TYPE A ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS- SEE SHEET A2.1 FOR ACCESSIBILITY DETAILS.
2. ALL UNITS TO CONTAIN THE FOLLOWING TOILET ACCESSORIES: (1) 18" TOWEL BAR, (1) 24" TOWEL BAR, 1 TOILET PAPER HOLDER, 1 TOWEL RING, 1 ROBE HOOK.
3. INSTALL ALL GRAB BAR BLOCKING AT TIME OF CONSTRUCTION. GRAB BARS TO BE INSTALLED AT RESIDENT REQUEST, TYP.
4. ALL UNDIMENSIONED DOORS TO BE CENTERED OR 4" OFF SIDE WALL.
5. ALL UNDESIGNATED DIMENSIONED WALLS TO BE 3 1/2" WOOD STUD.
6. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL LAYOUTS.
7. REFER TO INTERIOR FINISH PLANS & LEGEND FOR ALL UNIT INTERIORS.
8. DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.
9. CORRIDOR WALLS AT UNIT AND DEMISING WALLS BETWEEN UNITS SHALL BE TREATED AS SOUND RATED WALLS.
13. SEE BUILDING PLANS FOR DESIGNATION OF BALCONY/ SCREENED PORCH OR SUNROOM.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. MUELLER NUMBER A-0802 REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
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PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	KLM
CHECKED BY	:	Checker
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

ENLARGED UNIT PLANS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING A2.3	SHEET ____ OF ____

MENU

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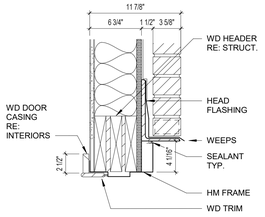
PLOT SCALE:
PLOT DATE: 2/9/2021 8:34:33 AM
SAVE DATE:
COMM. NO.:
DRAWING NO.:

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



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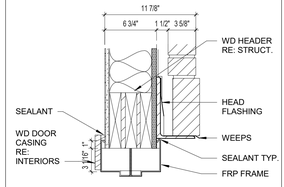
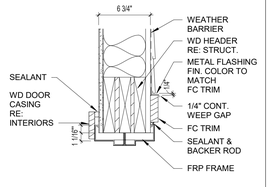
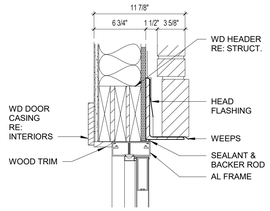


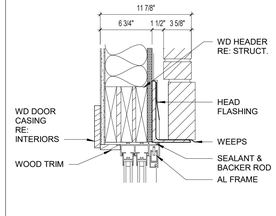
H2 - FBG HEAD @ BRICK



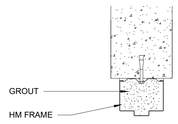
H3 - FBG HEAD @ SIDING



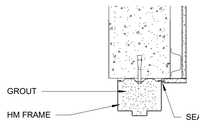
H4 - AL HEAD @ ENTRY



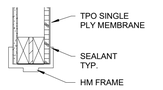
H5 - AL SLIDING HEAD @ ENTRY



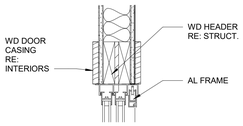
H6 - HM HEAD @ CIP



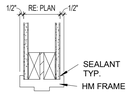
H7 - HM HEAD @ CIP W/ GYP ONE SIDE



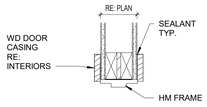
H8 - HM HEAD @ MECH WELL



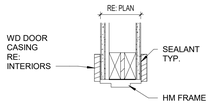
H9 - AL SLIDING HEAD @ GYP WALL



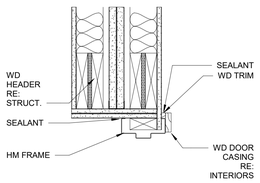
H10 - HM HEAD @ INT GYP



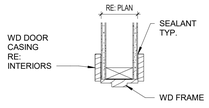
H11 - HM HEAD @ INT GYP W/CASING



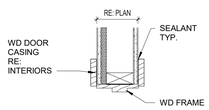
H12 - HM HEAD @ INT GYP FURRING W/CASING



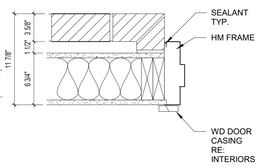
H13 - HM HEAD @ INT GYP SHAFT WALL



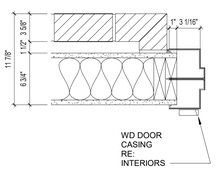
H14 - WD HEAD PRE-HUNG



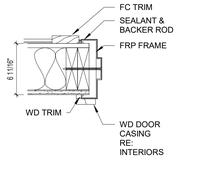
H15 - WD HEAD PRE-HUNG - FURRING



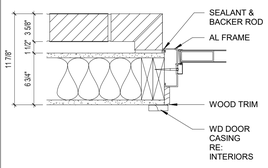
J1 - HM JAMB @ BRICK



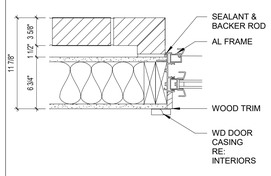
J2 - FBG JAMB @ BRICK



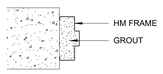
J3 - FBG JAMB @ SIDING



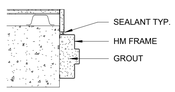
J4 - AL JAMB @ BRICK



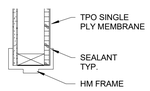
J5 - AL SLIDING JAMB @ SIDING



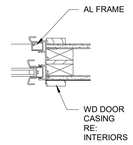
J6 - HM JAMB @ CIP



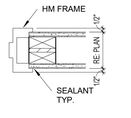
J7 - HM JAMB @ CIP W/ GYP ONE SIDE



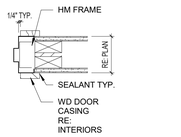
J8 - HM JAMB @ MECH WELL



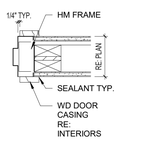
J9 - AL SLIDING JAMB @ GYP CASING



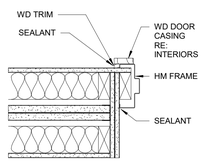
J10 - HM JAMB @ GYP NO CASING



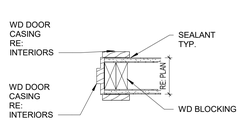
J11 HM JAMB @ GYP W/CASING



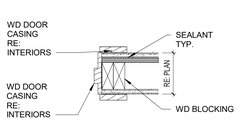
J12 - HM JAMB @ GYP W/FURRING CASING



J13 - HM JAMB @ INT CYP SHAFT WALL



J14 - WD JAMB PRE-HUNG



J15 - WD JAMB PRE-HUNG - FURRING

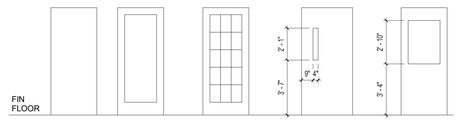
DOOR SCHEDULE

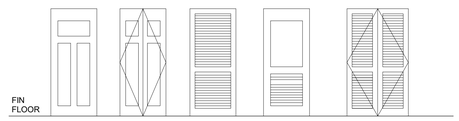
ROOM	TYPE	DOOR MATERIAL	WIDTH	DOOR PAIR	DOOR HEIGHT	FIRE RATING	FRAME ELEV	FRAME HEAD	FRAME JAMB	HW SET	COMMENTS
1001A	FG	AL	6' - 0"		6' - 8"		1	H5	J5	10	
1001B	FG	AL	6' - 0"		6' - 8"		1	H9	J9	10	CARD ACCESS
1002	F	HM	6' - 0"		6' - 8"	90 MIN	2	H13	J13	6	HOLD OPEN
1003	NV	HM	3' - 0"		6' - 8"	90 MIN	2	H7	J7	7	CARD ACCESS - AUTO OP.
1004	F	HM	3' - 0"		6' - 8"	45 MIN	2	H6	J6	14	
1006	NV	HM	3' - 0"		6' - 8"	20 MIN	2	H11	J10	7	CARD ACCESS - AUTO OP.
1007	F	HM	3' - 0"		6' - 8"	45 MIN	2	H10	J10	14	
1008A	GAR	AL	12' - 0"		9' - 0"	-	-			11	
1008B	GAR	AL	12' - 0"		9' - 0"	-	-			11	
1009	NV	HM	3' - 0"		6' - 8"	90 MIN	2	H6	J6	7	CARD ACCESS
1011	F	HM	3' - 0"		6' - 8"	45 MIN	2	H10	J10	14	
1012	F	HM	3' - 0"		6' - 8"	45 MIN	2	H10	J10	14	
1018	NV	HM	3' - 0"		6' - 8"	90 MIN	2	H6	J6	7	CARD ACCESS
2001	F	HM	6' - 0"		6' - 8"	90 MIN	2	H13	J13	6	HOLD OPEN
2002A	FG	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	2	
2002B	FG	AL	6' - 0"		7' - 0"	-	1	H4	J4	12	
2003	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
2004	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	4	AUTO OPERATOR
2005	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
2006	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
2007	F	HM	6' - 0"		6' - 8"	90 MIN	3	H10	J10	6	HOLD OPEN
2008	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
2009A	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
2009B	NV	HM	3' - 0"		7' - 0"	-	2	H1	J1	9	CARD ACCESS
2010	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
2011	FG	AL	6' - 0"		7' - 0"	-	1	H4	J4	13	CARD ACCESS - AUTO OP.
2012	F	WD	5' - 0"		6' - 8"	-	1	H10	J10	5	
2013	F	WD	3' - 0"		6' - 8"	45 MIN	1	H12	J12	14	
2015	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
2016	F	HM	3' - 0"		7' - 0"	-	2	H1	J1	15	
2018A	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
2018B	NV	HM	3' - 0"		6' - 8"	-	2	H1	J1	9	CARD ACCESS
3001	F	HM	6' - 0"		6' - 8"	90 MIN	2	H13	J13	6	HOLD OPEN
3003	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
3004	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	1	
3005	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
3006	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
3007	F	HM	6' - 0"		6' - 8"	90 MIN	3	H10	J10	6	HOLD OPEN
3008	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
3009	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
3010	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
3012	F	WD	5' - 0"		6' - 8"	-	1	H10	J10	5	
3013	F	WD	3' - 0"		6' - 8"	45 MIN	1	H12	J12	14	
3014	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
3015	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
3018	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
4002	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
4003	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
4004	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	1	
4005	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
4006	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
4007	F	HM	6' - 0"		6' - 8"	90 MIN	1	H10	J10	6	HOLD OPEN
4008	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
4009	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
4010	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
4012	F	WD	5' - 0"		6' - 8"	-	1	H10	J10	5	
4013	F	WD	3' - 0"		6' - 8"	45 MIN	1	H12	J12	14	
4018	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
5002	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
5003	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
5004	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	1	
5005	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
5006	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
5007	F	HM	6' - 0"		6' - 8"	90 MIN	3	H10	J10	6	HOLD OPEN
5008	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	3	
5009	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
5010	F	WD	3' - 0"		6' - 8"	20 MIN	1	H12	J12	14	
5012	F	WD	5' - 0"		6' - 8"	-	1	H10	J10	5	
5013	F	WD	3' - 0"		6' - 8"	45 MIN	1	H12	J12	14	
5018	NV	HM	3' - 0"		6' - 8"	90 MIN	1	H13	J13	8	
6001	F	HM	3' - 0"		5' - 0"	-	1	H8	J8	15	
6002	F	HM	3' - 0"		5' - 0"	-	1	H8	J8	15	
6003	F	HM	3' - 0"		5' - 0"	-	1	H8	J8	15	
6004	F	HM	3' - 0"		5' - 0"	-	1	H8	J8	15	
6009	F	HM	3' - 0"		3' - 0"	90 MIN	1	H13	J13	14	
6018	F	HM	3' - 0"		3' - 0"	90 MIN	1	H13	J13	14	

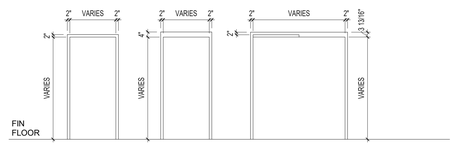
MARK	DOOR TYPE	DOOR MATERIAL	DOOR WIDTH	DOOR PAIR	DOOR HEIGHT	FIRE RATING	FRAME ELEV	FRAME HEAD	FRAME JAMB	HW SET	COMMENTS
U1	PD	MDF	3'-0"		6'-8"	20 MIN		H15	J15	16	
U2	FG-1	FBG	3'-0"		6'-8"			H2/H3	J2/J3	20	EXTERIOR - INTEGRAL BLINDS
U3	PD	DF	3'-0"		6'-8"			H14	J14	19	
U4	PD	DF	2'-10"		6'-8"			H14	J14	19	
U5	PD	DF	2'-10"		6'-8"			H14	J14	17	
U6	PD-1	DF	PAIR 2'-0"		6'-8"			H14	J14	18	
U7	PD-1	DF	PAIR 1'-6"		6'-8"			H14	J14	18	
U8	PD-1	DF	PAIR 1'-9"		6'-8"			H14	J14	18	
U9	PD-1	DF	PAIR 1'-3"		6'-8"			H14	J14	18	
U10	LV-1	DF	PAIR 2'-6"		6'-8"			H14	J14	18	
U11	PD/PKT	DF	2'-10"		6'-8"			H14	J14	21	
U12	PD/PKT	DF	3'-0"		6'-8"			H14	J14	21	
U13	PD/PKT	DF	PAIR 2'-4"		6'-8"			H14	J14	22	
U14	PD	DF	3'-0"		6'-8"			H14	J14	14	
U15	LV-1	DF	PAIR 2'-4"		6'-8"			H14	J14	18	
U16	PD	DF	2'-6"		6'-8"			H14	J14	16	

FIBERGLASS DOORS BASIS OF DESIGN - JELD WEN DESIGN-PRO SERIES

NOTE: ALL GLAZING IN FIXED AND OPERABLE PANELS OF DOORS SHALL BE SAFETY GLAZING PER SECTION 2406.







DOOR TYPE ABBREVIATIONS

AE- AUTOMATIC ENTRANCE
AL-ALUMINUM
ALC-ALUMINUM CLAD
DA-DOUBLE ACTING
DF-DIE FORMED
FBG-FIBERGLASS DOOR
HC-HOLLOW CORE
HM-HOLLOW METAL
MDF-MDF SOLID COMPOSITE DOOR
OC-OVERHEAD COILING DOOR
PKT-POCKET DOOR
PL-PLASTIC LAMINATE
SC-SOLID CORE
SL-SLIDING DOOR
SR-SOUND RATED
SS-STAINLESS STEEL
TR-THERMAL RATED
WD-WOOD SOLID CORE

PERMIT SET

STATE OF MISSOURI TIMOTHY A. MUELLER NUMBER A-6802 REGISTERED ARCHITECT 7-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM/DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

DOOR SCHEDULE & DETAILS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING A4.1	SHEET ____ OF ____

MENU

CAD VERSION

PLOT SCALE

PLOT DATE
2/10/2021 10:08:13 AM

COMM NO.

DRAWING NO.

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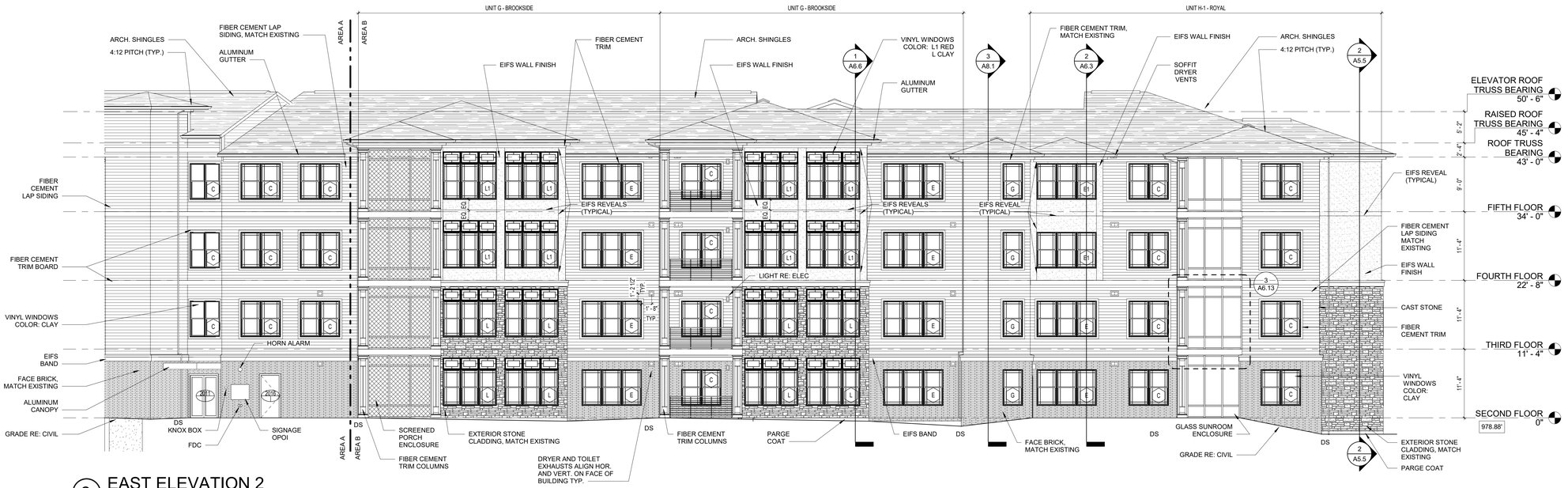
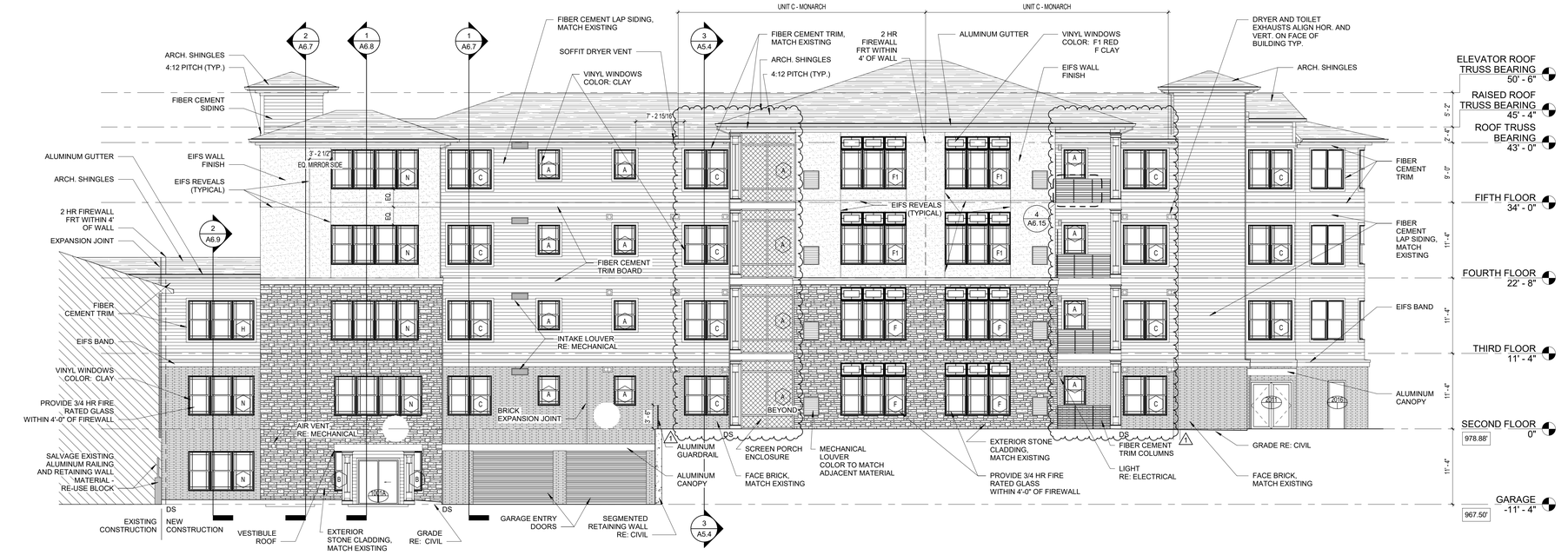


2 EAST ELEVATION 2

1/8" = 1'-0"



1 EAST ELEVATION

1/8" = 1'-0"

KEY PLAN

N

PERMIT SET

STATE OF MISSOURI
TIMOTHY A. NUMBERGER
NUMBERGER
A-9802
REGISTERED ARCHITECT
2-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	EHH/DAS
CHECKED BY	:	AAT
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

EXTERIOR ELEVATIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A5.1	____ OF ____

MENU

CADD VERSION

PLOT SCALE

2/9/2021
8:36:26 AM
DATE / TIME

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DRAWING NO.

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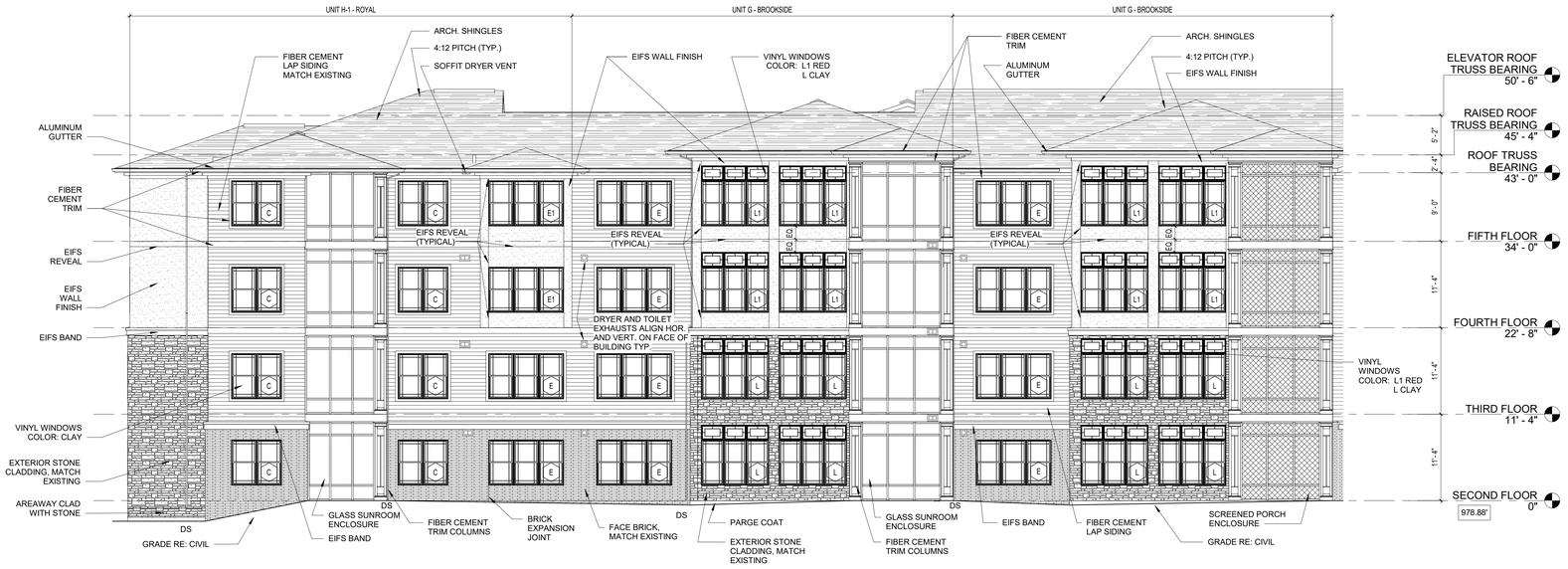
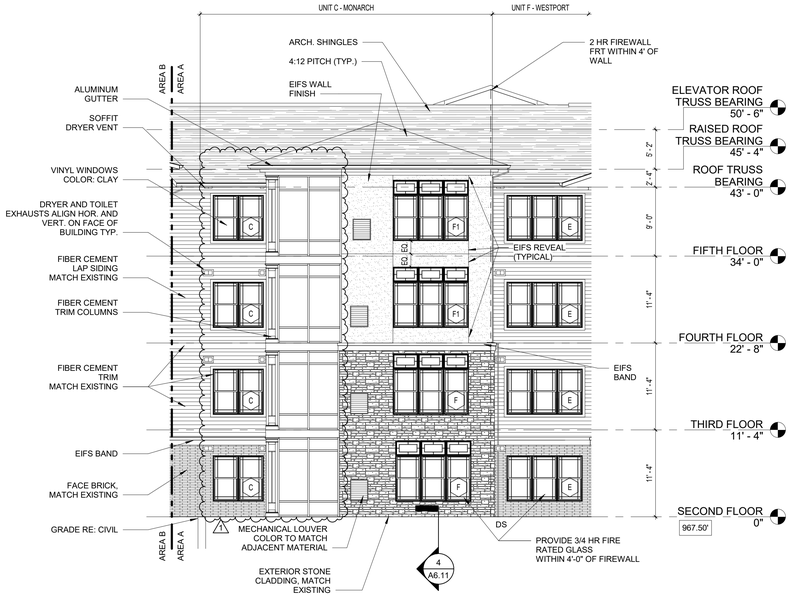


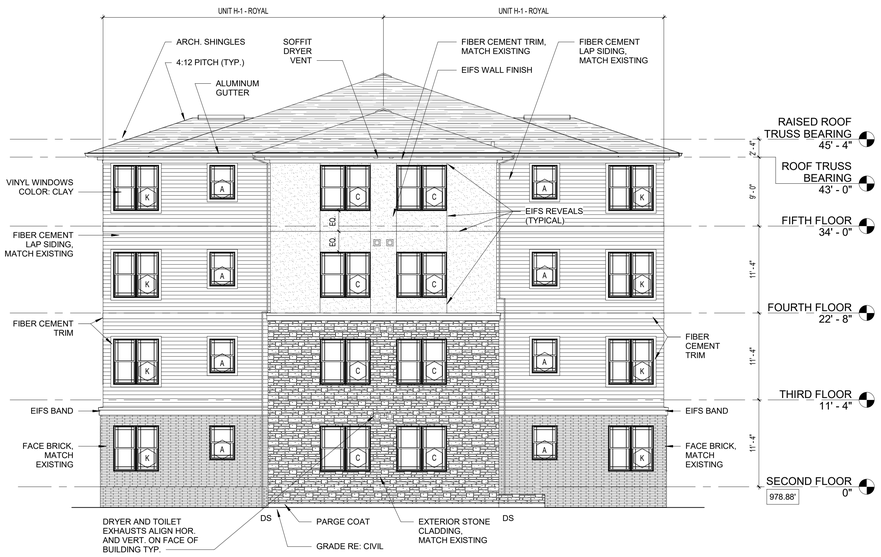
3 WEST ELEVATION 2

1/8" = 1'-0"



2 WEST ELEVATION

1/8" = 1'-0"



1 NORTH ELEVATION

1/8" = 1'-0"

KEY PLAN

N

PERMIT SET

STATE OF MISSOURI
TIMOTHY J. MUELLER
NUMBER A-9802
REGISTERED ARCHITECT
2-9-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	EHH/DAS
CHECKED BY	:	AAT
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

EXTERIOR ELEVATIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A5.3	____ OF ____

MENU

CADD VERSION

PLOT SCALE

2/9/2021
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DATE / TIME

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DRAWING NO.

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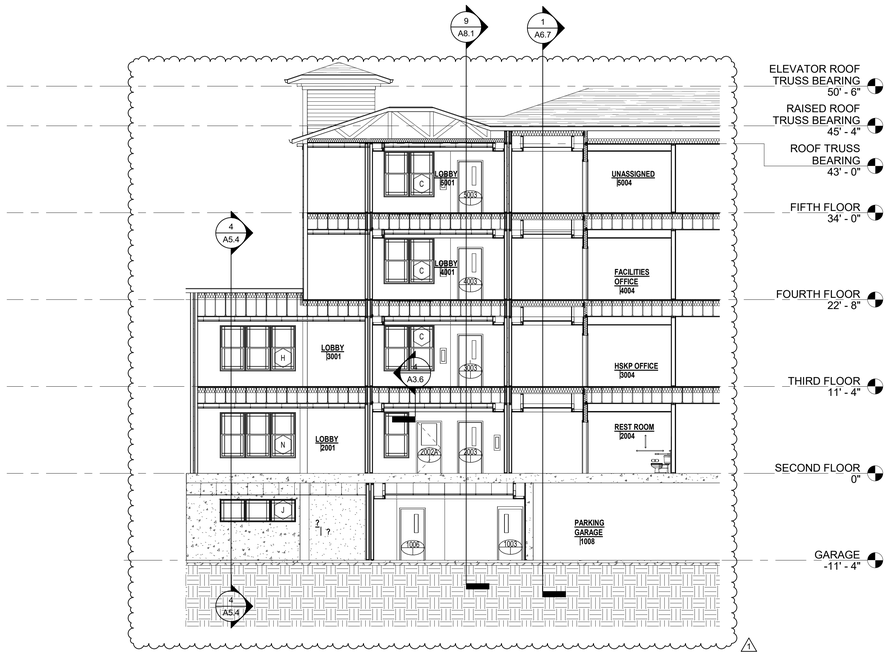
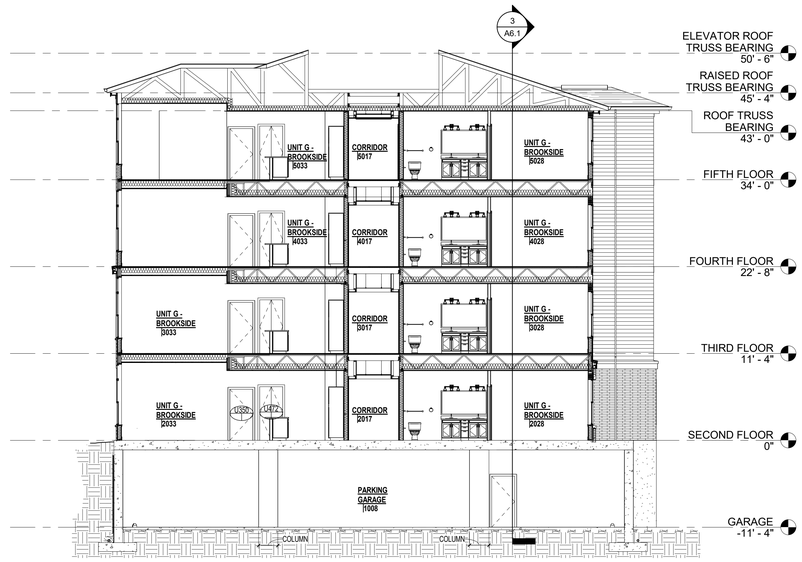


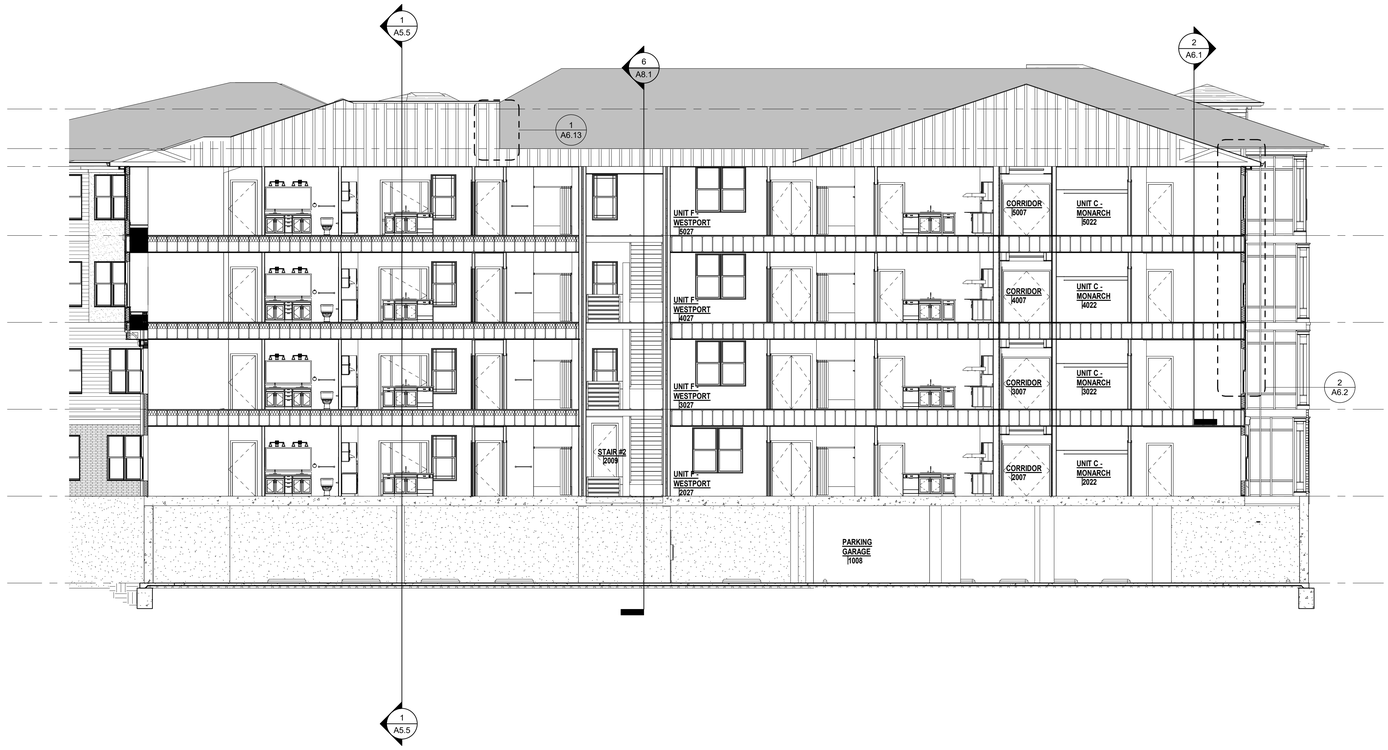
1 BUILDING SECTION AT CONNECTION TO PH. 1

1/8" = 1'-0"



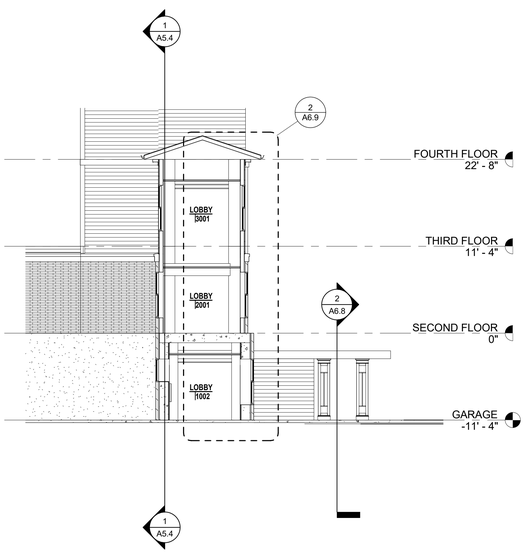
2 BUILDING SECTION AT UNITS

1/8" = 1'-0"



3 BUILDING SECTION

1/8" = 1'-0"



4 BUILDING SECTION AT CONNECTOR

1/8" = 1'-0"

MENU

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PLOT SCALE

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DATE / TIME

COMM. NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. MURPHY NUMBER A-6802 REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village

Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	GMJ
CHECKED BY	Checker
APPROVED BY	

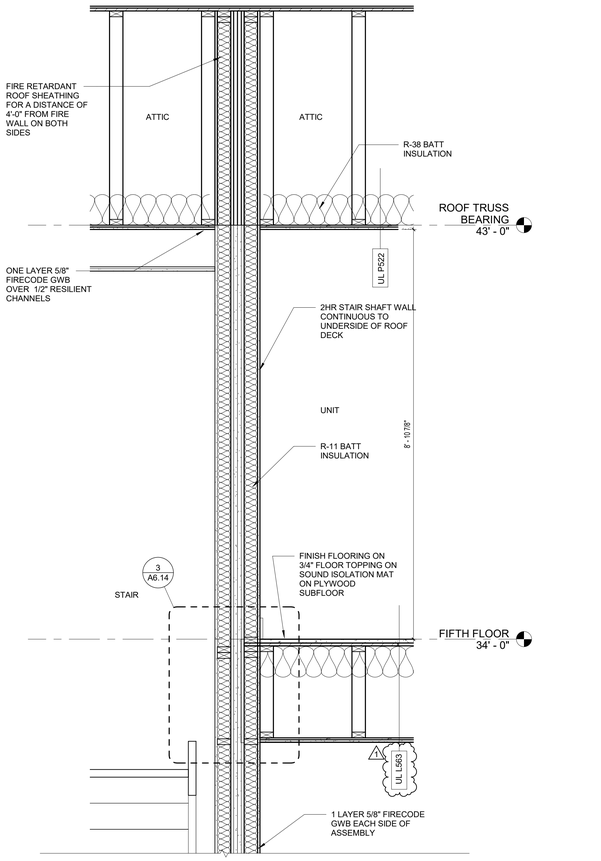
NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

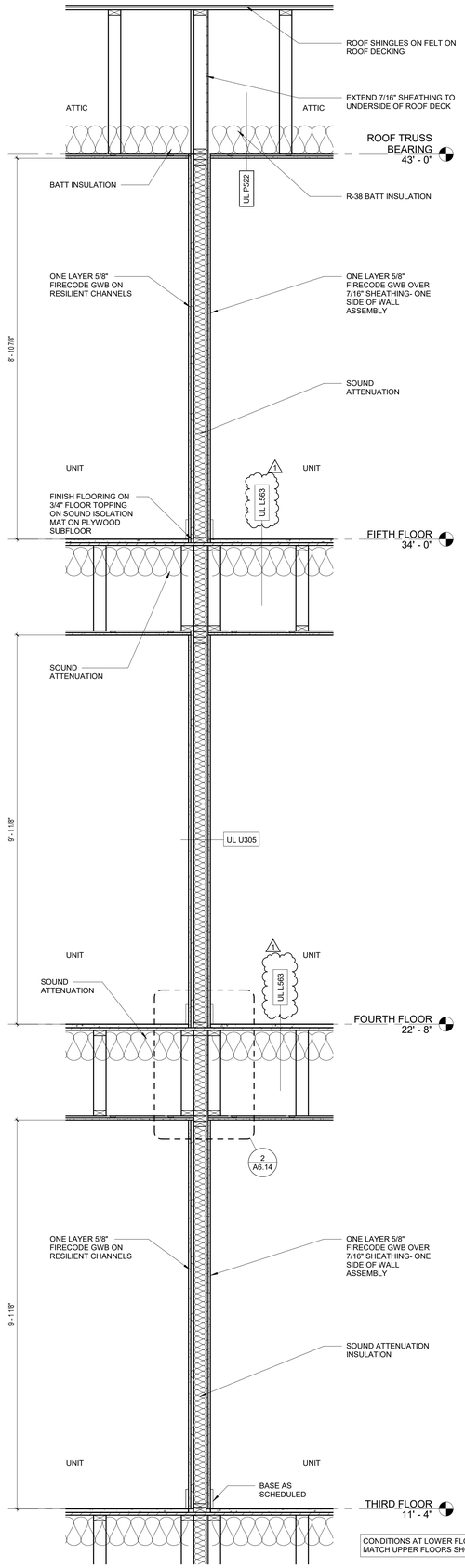
BUILDING SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A5.4	____ OF ____

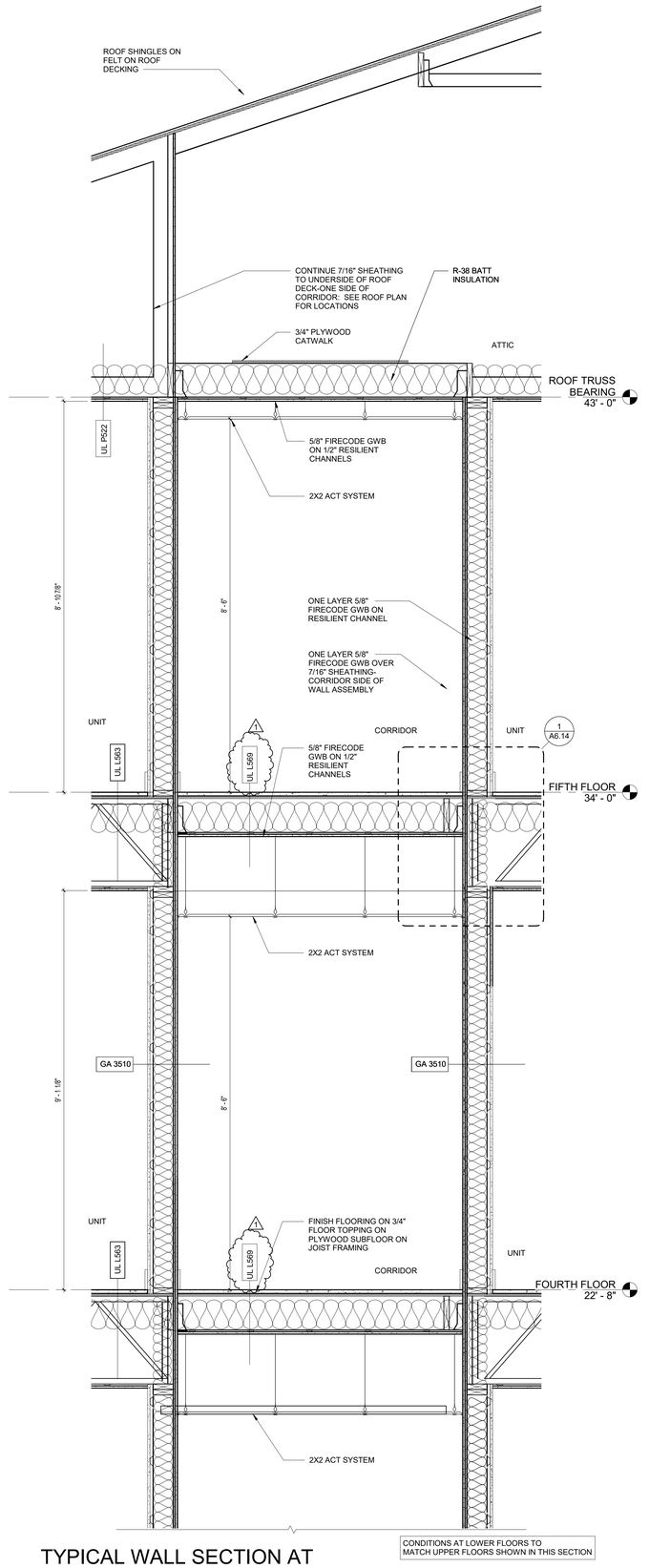
BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



3 TYPICAL SHAFT WALL
3/4" = 1'-0"



2 TYPICAL TENANT WALL SECTION
3/4" = 1'-0"



1 TYPICAL WALL SECTION AT CORRIDOR
3/4" = 1'-0"

1. DETAILS / SECTIONS SHOWN ON DRAWINGS ARE TYPICAL AND MAY APPLY TO LOCATIONS OTHER THAN WHERE SPECIFICALLY MARKED ON THE PLANS. IF SECTIONS OR DETAILS DO NOT REPRESENT ALL REQUIRED CONDITIONS, THE ARCHITECT SHALL BE CONTACTED FOR CLARIFICATION BY THE GENERAL CONTRACTOR.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. HUBBERT NUMBER A-6802 REGISTERED ARCHITECT
2-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

WALL SECTIONS - TYPICAL

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A6.1 SHEET ____ OF ____

MENU

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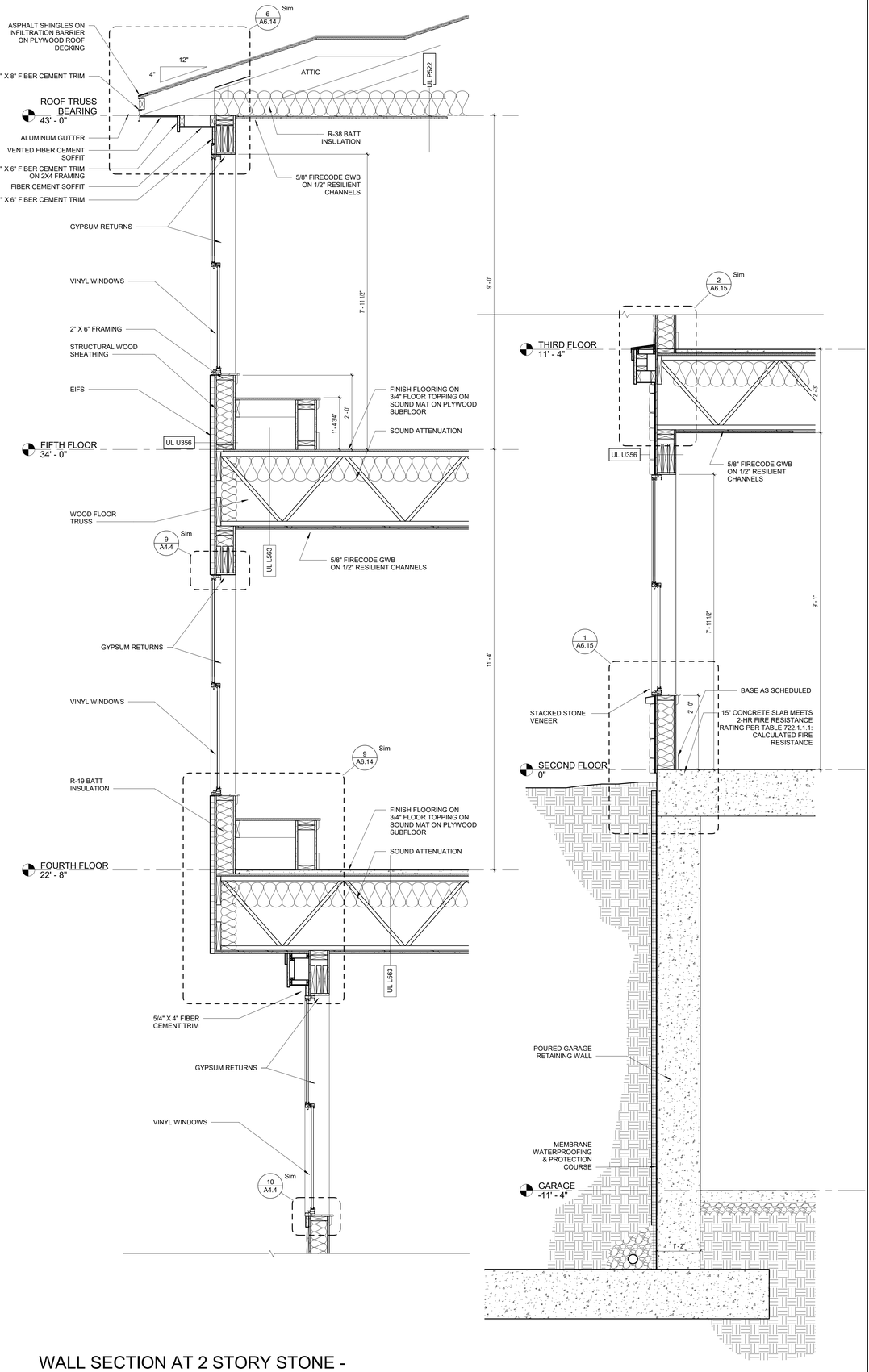
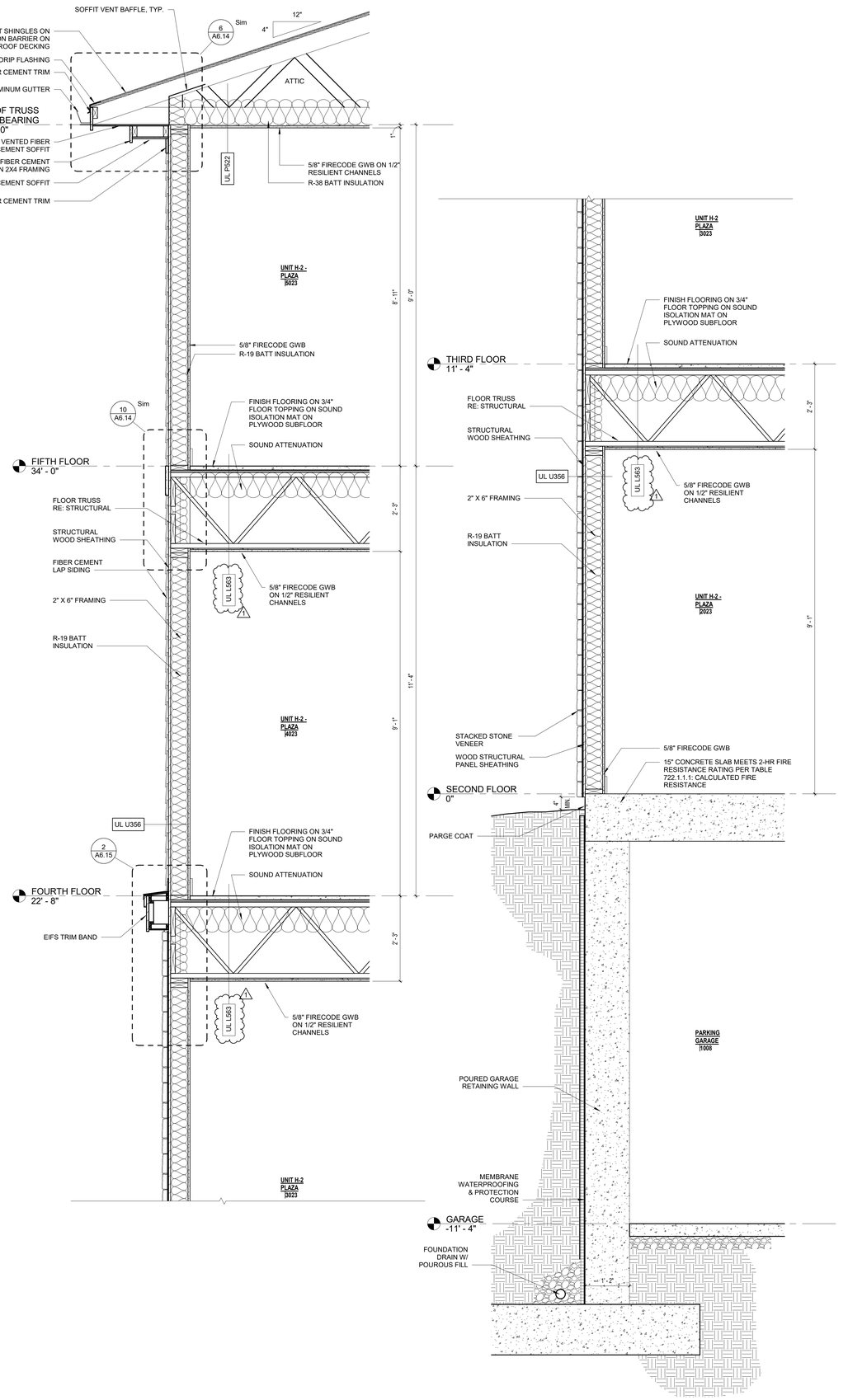
PLOT DATE 2/9/2021 12:35:22 PM
COMM NO.
DRAWING NO.

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



2 WALL SECTION AT 2 STORY STONE - BAY WINDOW

3/4" = 1'-0"



1 WALL SECTION AT 2 STORY STONE

3/4" = 1'-0"

1. DETAILS / SECTIONS SHOWN ON DRAWINGS ARE TYPICAL AND MAY APPLY TO LOCATIONS OTHER THAN WHERE SPECIFICALLY MARKED ON THE PLANS. IF SECTIONS OR DETAILS DO NOT REPRESENT ALL REQUIRED CONDITIONS, THE ARCHITECT SHALL BE CONTACTED FOR CLARIFICATION BY THE GENERAL CONTRACTOR.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. MUELLER NUMBER A-5802 REGISTERED ARCHITECT

2/8/21

PROJECT TITLE

John Knox Village

Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
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704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM/DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

WALL SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING A6.5

SHEET ____ OF ____

MENU

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PLOT SCALE

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COMM. NO.

DRAWING NO.

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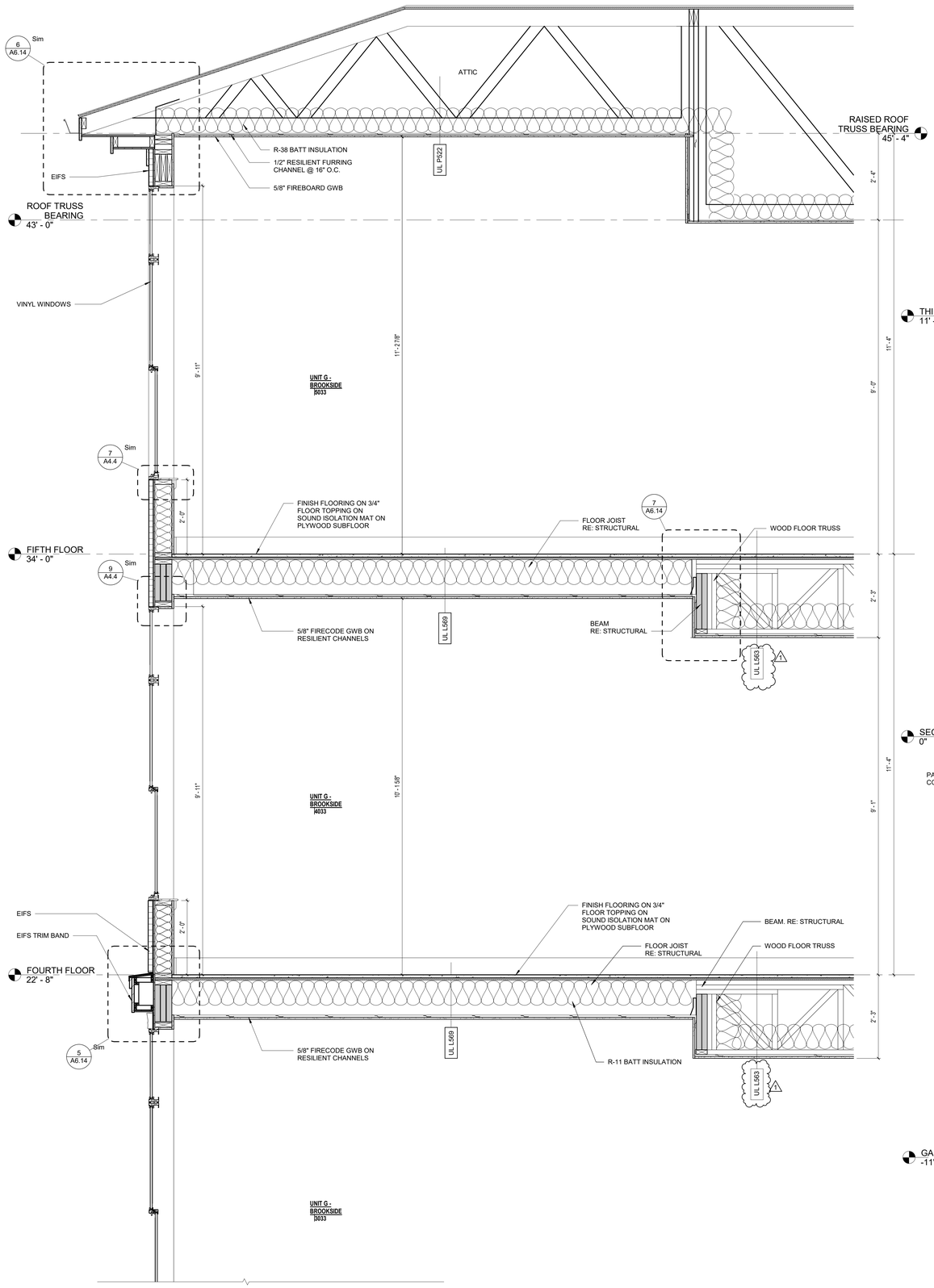

WALL SECTION AT RAISED CEILING/ TRANSOM

1 — 3/4" = 1'-0"

1. DETAILS / SECTIONS SHOWN ON DRAWINGS ARE TYPICAL AND MAY APPLY TO LOCATIONS OTHER THAN WHERE SPECIFICALLY MARKED ON THE PLANS. IF SECTIONS OR DETAILS DO NOT REPRESENT ALL REQUIRED CONDITIONS, THE ARCHITECT SHALL BE CONTACTED FOR CLARIFICATION BY THE GENERAL CONTRACTOR.

MENU

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2/9/2021
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COMM NO.
DRAWING NO.

PERMIT SET

STATE OF MISSOURI
TIMOTHY A. MUELLER
NUMBER A-6802
REGISTERED ARCHITECT
2-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
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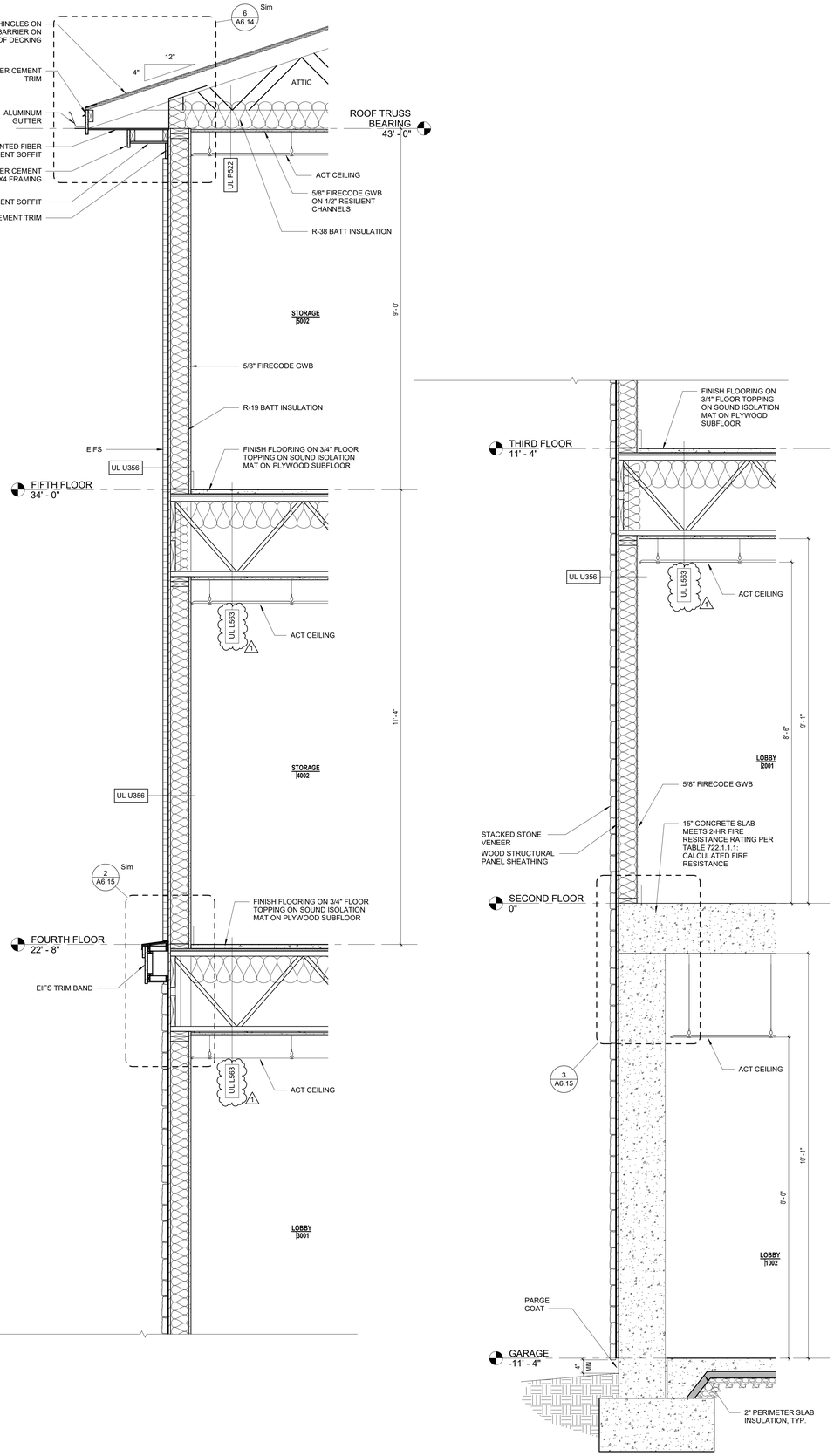
PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM/DAS
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

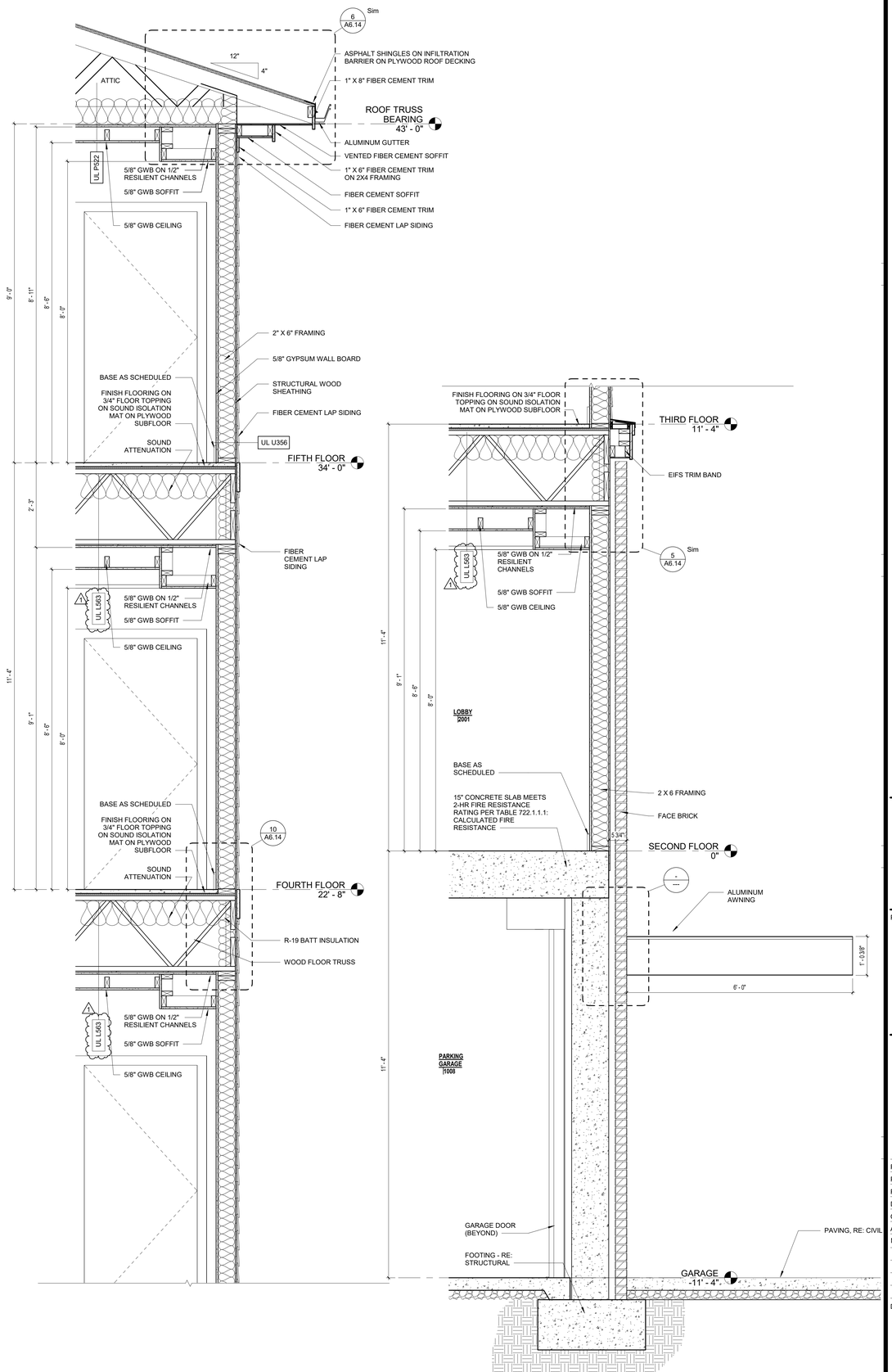
WALL SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A6.6	____ OF ____



WALL SECTION AT 3 STORY STONE - ENTRY

2 3/4" = 1'-0"



WALL SECTION AT GARAGE ENTRANCE

1 3/4" = 1'-0"

1. DETAILS / SECTIONS SHOWN ON DRAWINGS ARE TYPICAL AND MAY APPLY TO LOCATIONS OTHER THAN WHERE SPECIFICALLY MARKED ON THE PLANS. IF SECTIONS OR DETAILS DO NOT REPRESENT ALL REQUIRED CONDITIONS, THE ARCHITECT SHALL BE CONTACTED FOR CLARIFICATION BY THE GENERAL CONTRACTOR.

PERMIT SET

STATE OF MISSOURI · TIMOTHY A. HUBBARD · NUMBER A-6802 · REGISTERED ARCHITECT · 2/9/21

PROJECT TITLE

John Knox Village

Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
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PROJECT DESIGNER	DAS
PROJECT ARCHITECT	GMJ
PROJECT ENGINEER	
DRAWN BY	KLM
CHECKED BY	AAT
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

WALL SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING A6.7	SHEET ____ OF ____

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2/9/2021
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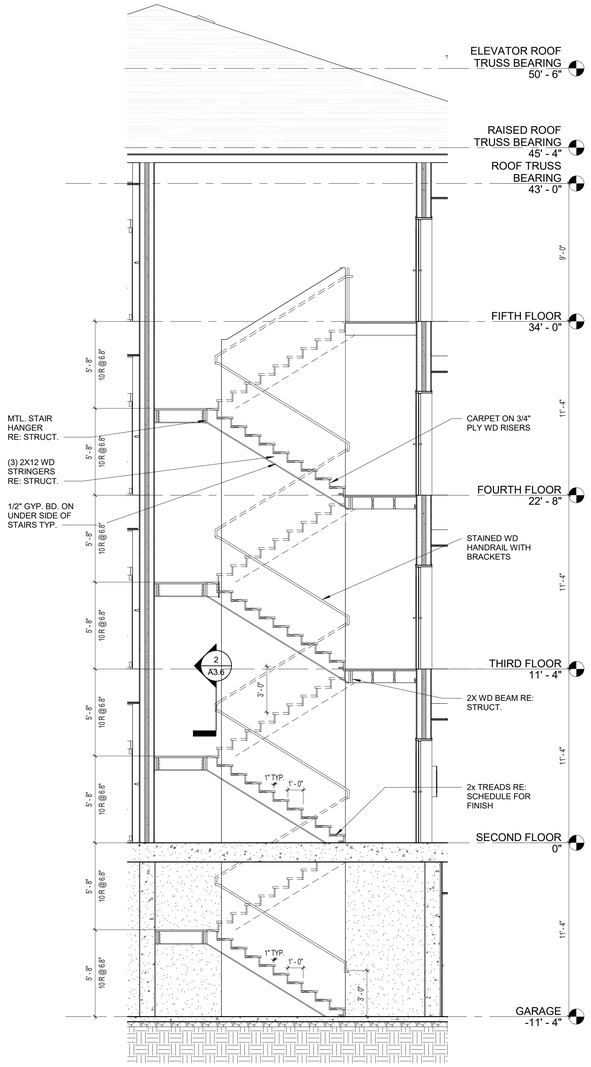
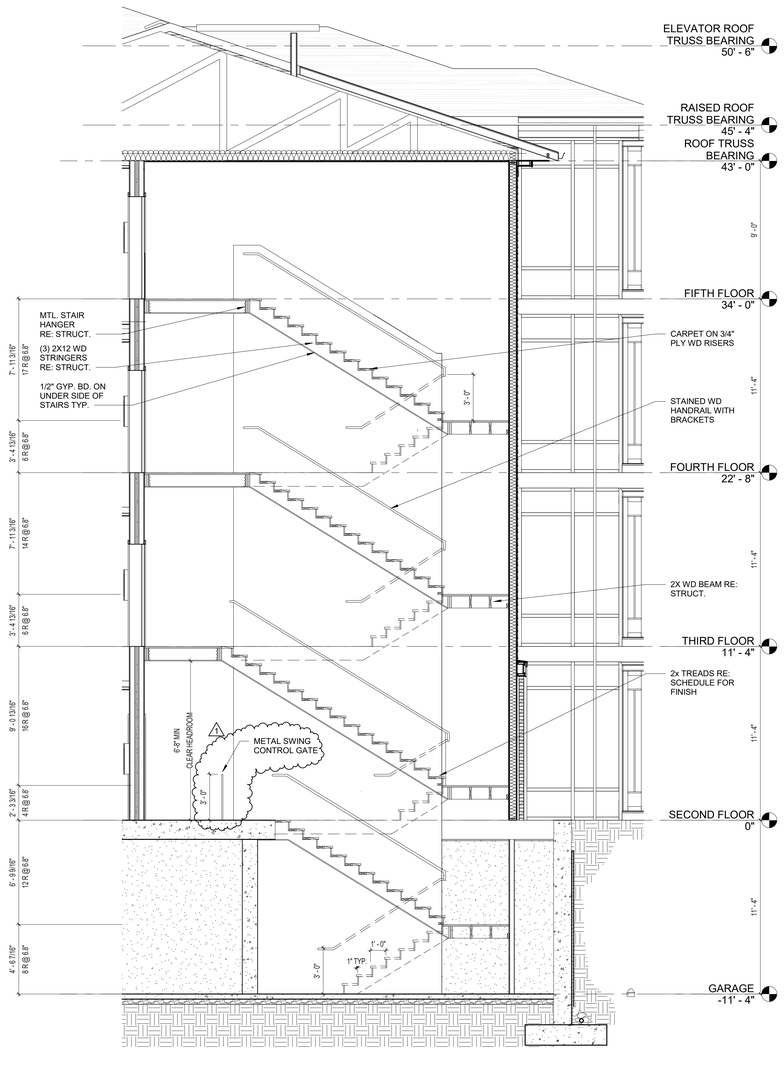
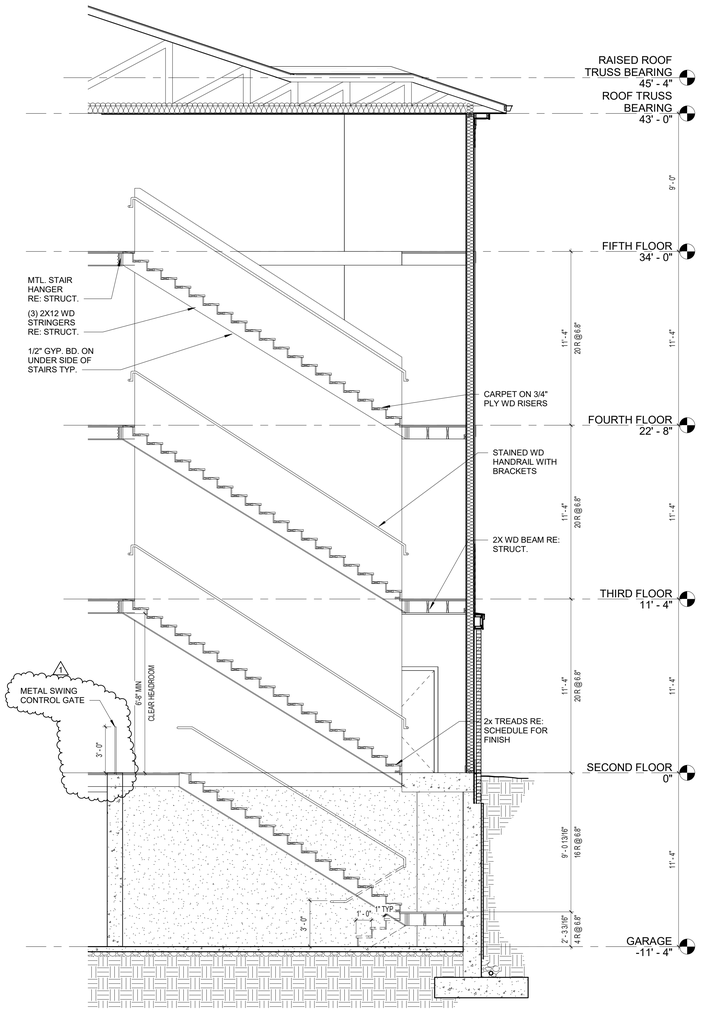


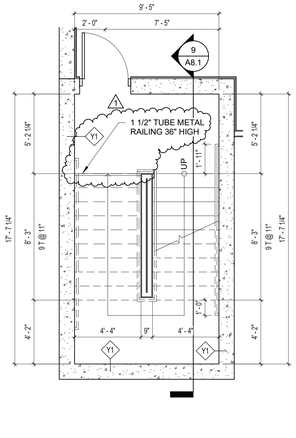
9 STAIR 1 - LONG
1/4" = 1'-0"



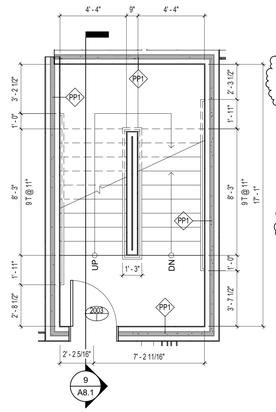
6 STAIR 2
1/4" = 1'-0"



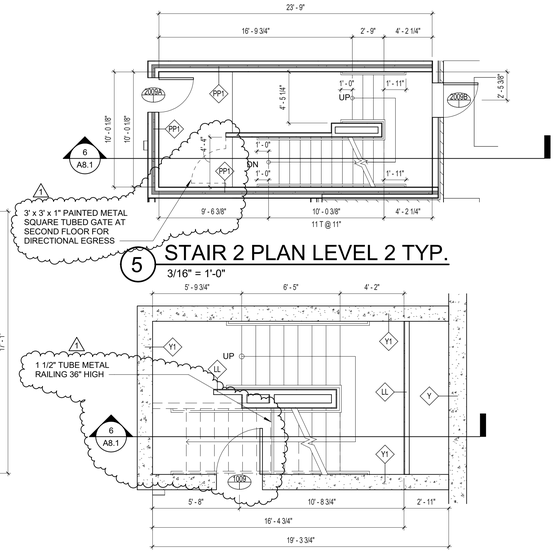
3 STAIR 3
1/4" = 1'-0"



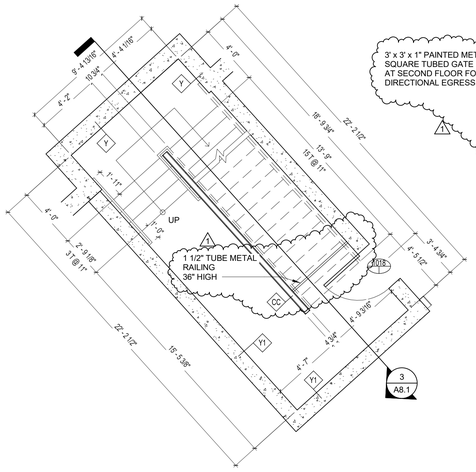
8 STAIR 1 GARAGE PLAN
1/4" = 1'-0"



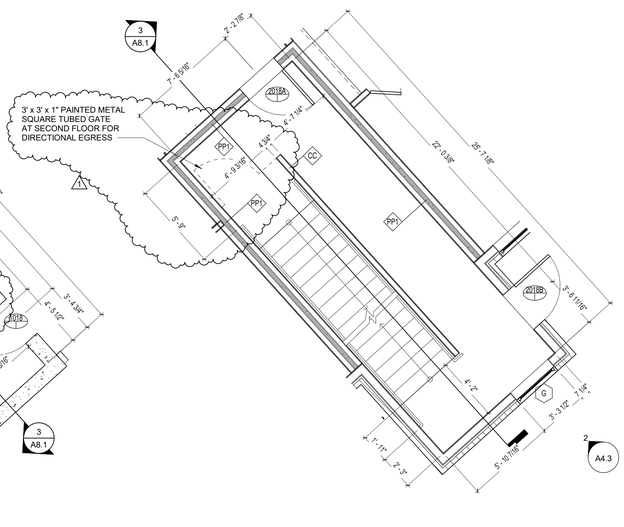
7 STAIR 1 PLAN LEVEL 2 TYP.
1/4" = 1'-0"



4 STAIR 2 GARAGE PLAN
1/4" = 1'-0"



2 STAIR 3 GARAGE PLAN
1/4" = 1'-0"



1 STAIR 3 PLAN LEVEL 2 TYP.
1/4" = 1'-0"

MENU

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PLOT DATE
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SAVE DATE
COMM NO.
DRAWING NO.

PERMIT SET

STATE OF MISSOURI TIMOTHY A. MUELLER NUMBER A-6802 REGISTERED ARCHITECT
1-8-21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	GMJ
CHECKED BY	:	Checker
APPROVED BY	:	

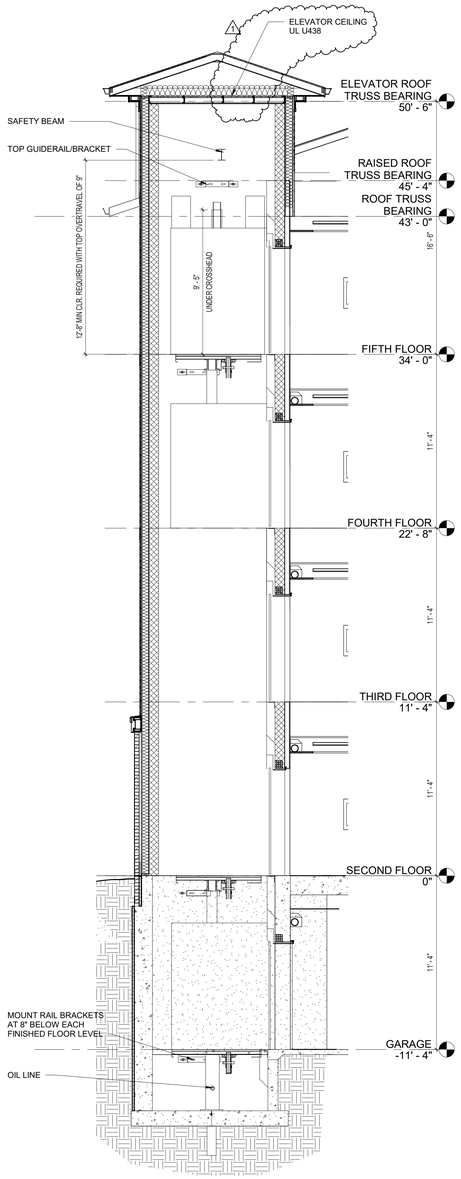
NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

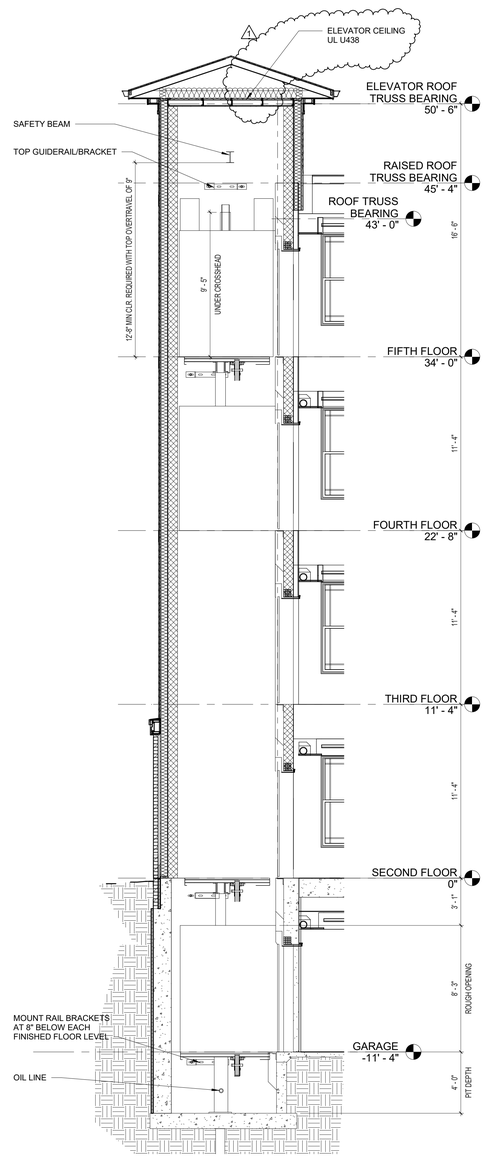
STAIR PLANS AND SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
A8.1	____ OF ____

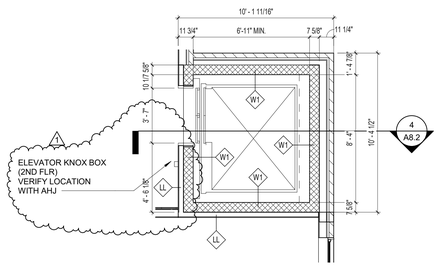
BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



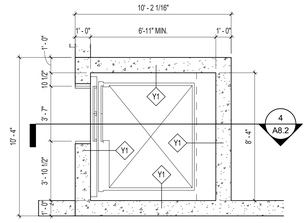
4 ELEV 2 A
1/4" = 1'-0"



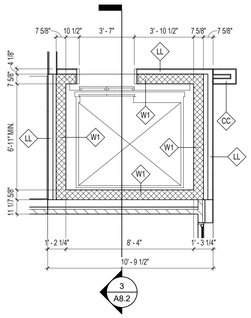
3 ELEV 1 - A
1/4" = 1'-0"



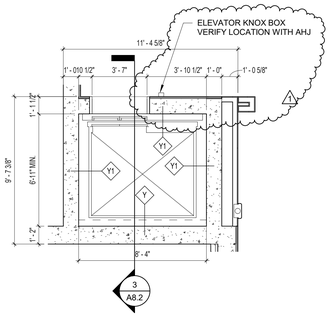
6 ELEV 2 PLAN TYP AT LEVELS 2-5
1/4" = 1'-0"



5 ELEV 2 GARAGE PLAN
1/4" = 1'-0"



2 ELEV 1 PLAN TYP. AT LEVELS 2-5
1/4" = 1'-0"



1 ELEV 1 GARAGE PLAN
1/4" = 1'-0"

MENU

CAD VERSION

PLOT SCALE

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3:00:22 PM

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COMM NO.

DRAWING NO.

PERMIT SET

STATE OF MISSOURI
TIMOTHY A. MUELLER
NUMBER
A-6802
REGISTERED ARCHITECT

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

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PROJECT DESIGNER	:	DAS
PROJECT ARCHITECT	:	GMJ
PROJECT ENGINEER	:	
DRAWN BY	:	GMJ
CHECKED BY	:	Checker
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

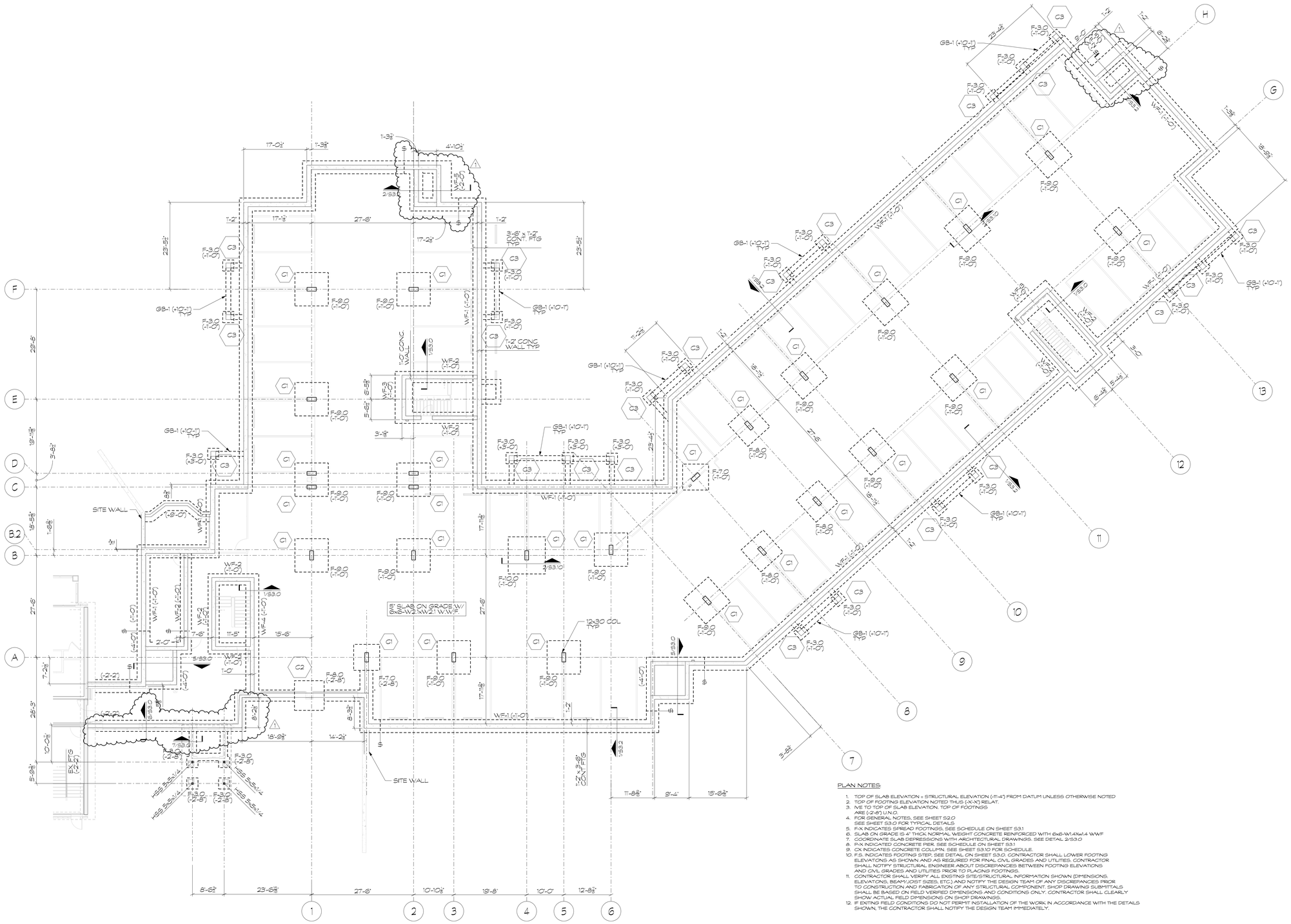
ELEVATOR PLANS AND SECTIONS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

DRAWING
A8.2

SHEET
____ OF ____

BIM 360://19132.00 John Knox Village – Meadows Phase II/19132.00 JKV_Meadows Phase II_Arch Central.rvt



1 S1.1 GARAGE FOUNDATION AND SLAB ON GRADE PLAN
3/32"=1'-0"

2/8/2021 9:32:04 AM P:\4985 John Knox Meadows Phase II\Sheets\S1.1.dgn user:default project workspace=FEG

MENU

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PLOT SCALE
PLOT DATE
SAVE DATE
COMM. NO.
DRAWING NO.

Fitzpatrick ENGINEERING GROUP PLLC
STRUCTURAL ENGINEERS
19520 W. Catawba Ave. Suite 311
Cornelius, NC 28031
P: 704-987-9114
NC LICENSE NO. P-2366
REG. JOINT JOHRS.COM

STATE OF MISSOURI
DOUGLAS G. FITZPATRICK
NUMBER
PE-2014016124
PROFESSIONAL ENGINEER
02/08/21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

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SFCS Inc• 1927 South Tryon Street
Charlotte, North Carolina 28203
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www.sfcs.com

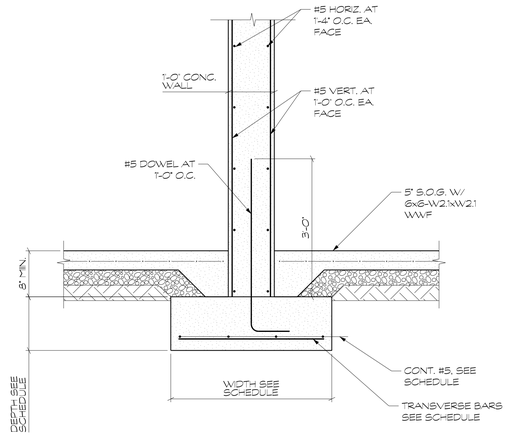
PROJECT DESIGNER	TJM
PROJECT ARCHITECT	DAS
PROJECT ENGINEER	
DRAWN BY	SRG
CHECKED BY	CES
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

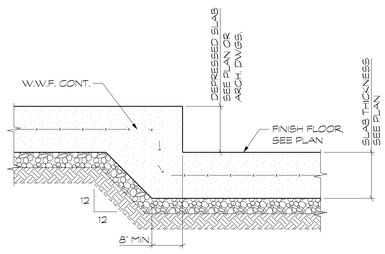
GARAGE FOUNDATION AND SLAB ON GRADE PLAN

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
S1.1	____ OF ____



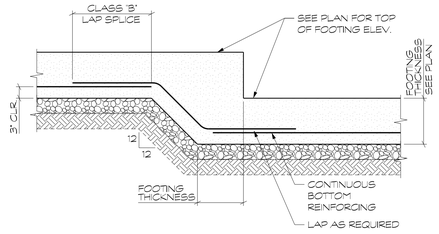
1 S3.0 **TYPICAL INTERIOR GARAGE WALL**

NO SCALE



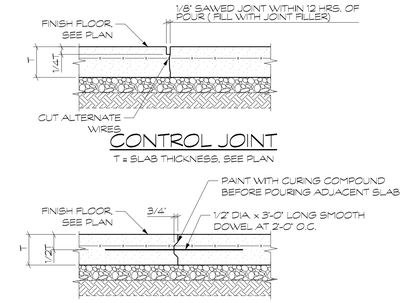
2 S3.0 **TYPICAL DEPRESSED SLAB ON GRADE**

NO SCALE



3 S3.0 **TYPICAL FOOTING STEP**

NO SCALE



4 S3.0 **TYPICAL S.O.G. C/J DETAILS**

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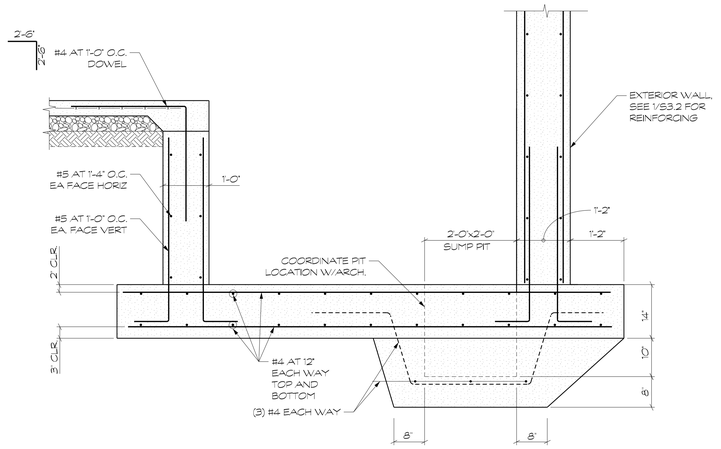
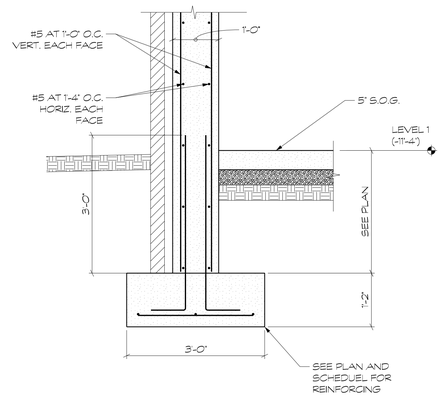


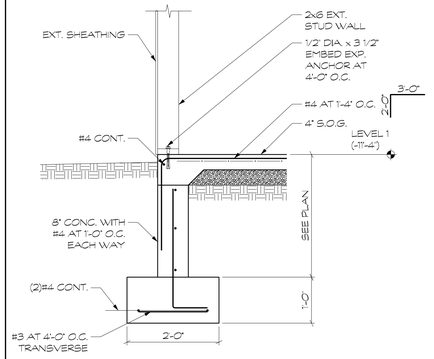
5 S3.0 **TYPICAL ELEVATOR PIT WITH SUMP**

NO SCALE



6 S3.0 **EXTERIOR FOOTING SECTION**

3/4"=1'-0"



7 S3.0 **FOOTING SECTION AT VESTIBULE**

3/4"=1'-0"

MENU

CADD VERSION	
PLOT SCALE	
PLOT DATE	
SAVE DATE	
COMM. NO.	
DRAWING NO.	

Fitzpatrick ENGINEERING GROUP PLLC
STRUCTURAL ENGINEERS
19520 W. Catawba Ave. Suite 311
Cornelius, NC 28031
P 704-897-9114
NC LICENSE NO. P-0344
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DOUGLAS G. FITZPATRICK NUMBER PE-2014016124 STATE OF MISSOURI PROFESSIONAL ENGINEER

02/08/21

PROJECT TITLE

John Knox Village

Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc. 1927 South Tryon Street
Charlotte, North Carolina 28203
704.372.7327 Fax 704.372.7369
www.sfcs.com

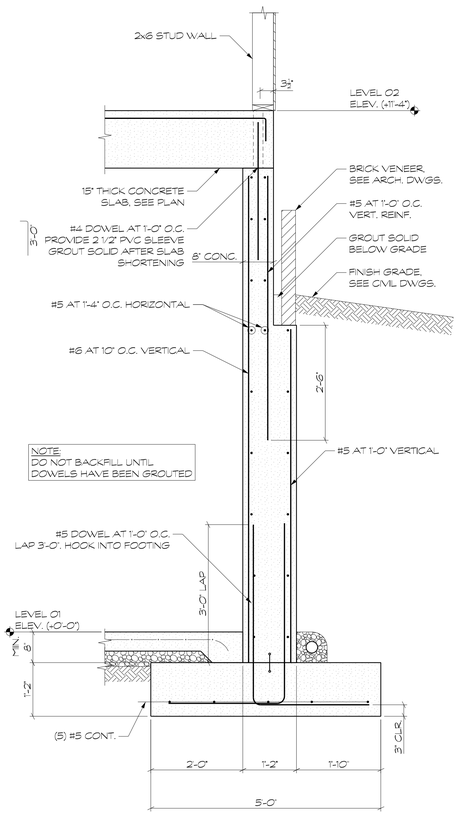
PROJECT DESIGNER	TJM
PROJECT ARCHITECT	DAS
PROJECT ENGINEER	
DRAWN BY	SRG
CHECKED BY	CES
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

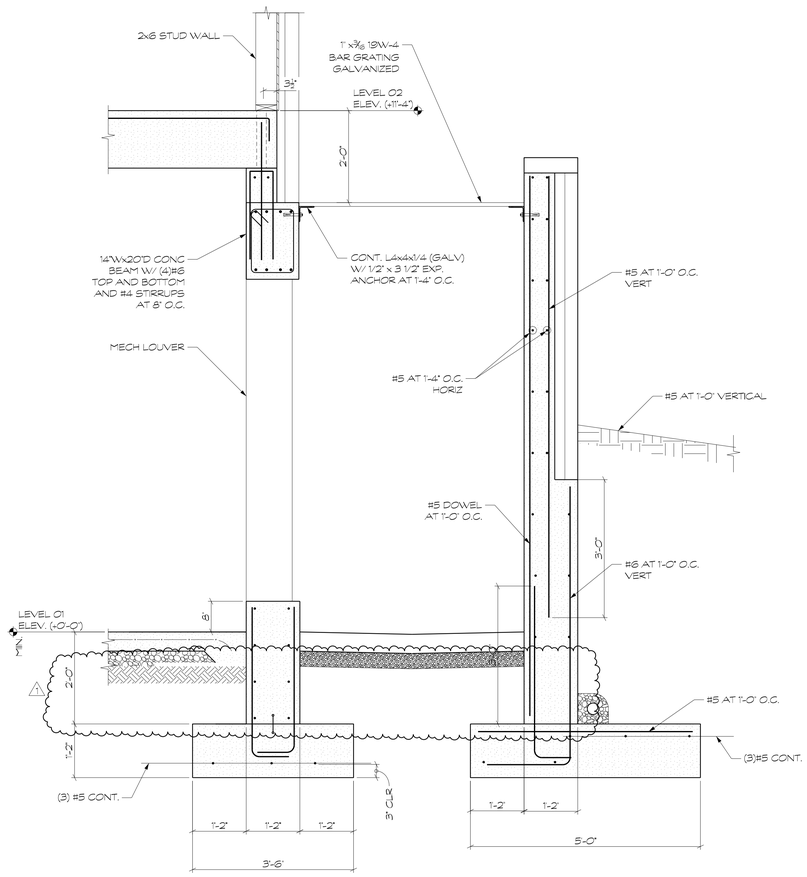
DRAWING TITLE

TYPICAL FOUNDATION SECTIONS AND DETAILS

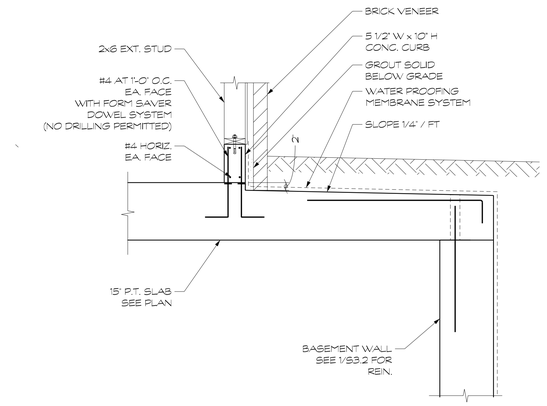
COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING	SHEET
S3.0	_____ OF _____



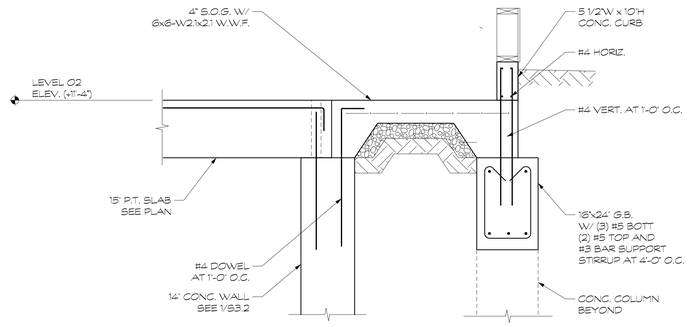
1 S3.2 FOUNDATION SECTION
3/4"=1'-0"



2 S3.2 AREAWAY SECTION
3/4"=1'-0"



3 S3.2 EXT. SECTION AT RAISED GRADE
3/4"=1'-0"



4 S3.2 SUNROOM FNDN SECTION
3/4"=1'-0"

MENU

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NO. C-2975 NO. P-0366
NO. A-2975 NO. 020
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1	Revision 1	02/08/21

DRAWING TITLE

FOUNDATION SECTIONS AND DETAILS

COMM. NO.	DATE
19132.00	JANUARY 18, 2021
DRAWING S3.2	SHEET _____ OF _____

SCHEDULE OF SPECIAL INSPECTION SERVICES

- [x] STRUCTURAL STEEL
- [x] CAST-IN-PLACE CONCRETE
- [x] MASONRY
- [x] WOOD
- [x] SOILS AND FOUNDATIONS
- [ ] PILES
- [ ] PIERS
- [x] SPRAY FIRE-RESISTANT MATERIAL
- [ ] MASTIC, INTUMESCENT COATINGS
- [ ] EXTERIOR INSULATION AND FINISH SYSTEM
- [ ] SPECIAL CASES
- [ ]

SCHEDULE OF QUALIFICATIONS OF AGENCIES. INSPECTORS, AND TESTING TECHNICIANS

CASE FORM 101

SPECIAL INSPECTION AGENCIES SHALL MEET THE FOLLOWING REQUIREMENTS:
1. INDEPENDENT - OBJECTIVE AND COMPETENT; DISCLOSE POSSIBLE CONFLICTS OF INTEREST
2) EQUIPMENT - HAVE ADEQUATE EQUIPMENT, PERIODICALLY CALIBRATED TO PERFORM REQUIRED TESTS,
3) PERSONNEL - SHALL EMPLOY EXPERIENCED PERSONNEL EDUCATED TO CONDUCTING, SUPERVISING AND EVALUATING TESTS AND/OR INSPECTIONS

THE FOLLOWING KEY IS USED IN THE SCHEDULES OF SPECIAL INSPECTION TO IDENTIFY THE MINIMUM QUALIFICATIONS FOR THE INSPECTION AGENTS

SE	STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES AND REGISTERED IN THE STATE OF THE PROJECT
GE	GEOTECHNICAL ENGINEER - A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS AND REGISTERED IN THE STATE OF THE PROJECT
EIT	ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION.
ACI	AMERICAN CONCRETE INSTITUTE - GRADE 1 CERTIFIED CONCRETE FIELD TESTING TECHNICIAN.
CWI	AMERICAN WELDING SOCIETY - CERTIFIED WELDING INSPECTOR
SCWI	AMERICAN WELDING SOCIETY - SENIOR CERTIFIED WELDING INSPECTOR
CAWI	AMERICAN WELDING SOCIETY - CERTIFIED ASSOCIATE WELDING INSPECTOR
ASNT	AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING - LEVEL II OR III
SMSI	STRUCTURAL MASONRY SPECIAL INSPECTOR - CERTIFIED BY ICBO
SWSI	STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
SFSI	SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR
PCSI	PRESTRESSED CONCRETE SPECIAL INSPECTOR
RCSI	REINFORCED CONCRETE SPECIAL INSPECTOR

SPECIAL INSPECTION GENERAL NOTES 2018 INTERNATIONAL BUILDING CODE

THE SPECIAL INSPECTING AGENCY FOR THIS SCOPE OF WORK SHALL:
A. SUBMIT CERTIFICATES OF QUALIFICATIONS FOR TESTING PERSONNEL
B. COORDINATE INSPECTIONS WITH CONTRACTOR AND SUBCONTRACTORS IN ACCORDANCE WITH THE SCHEDULE ABOVE.
C. FURNISH FOUR(4) COPIES OF ALL REPORTS TO THE SPECIAL INSPECTOR ADMINISTRATION ON A BIMONTHLY BASIS. THE REPORTS SHALL CONTAIN THE FOLLOWING INFORMATION AS A MINIMUM:
1. NAME OF INSPECTOR
2. DATE AND TIME OF INSPECTION
3. SPECIFIC AREAS OF WORK FOR THAT DAY
4. DETAILS OF ITEMS INSPECTED
5. DISCOVERED DEFICIENCIES SHALL BE CLEARLY IDENTIFIED
6. RESOLUTION TO CURRENT AND PRIOR DEFICIENCIES SHALL BE CLEARLY RECORDED.
D. PROVIDE AGENT'S FINAL REPORT INDICATING THAT ALL TESTING HAS BEEN COMPLETED WITH A COMPLETE LIST OF OUTSTANDING DISCOVERED DEFICIENCIES.
E. FINAL REPORT DOCUMENTING SPECIAL INSPECTIONS AND CORRECTION OF DISCREPANCIES SUBMITTED AT A MUTUAL AGREED POINT IN TIME
F. RISK CATEGORY ARE DEFINED AS FOLLOWS (PER IBC 1604.5):
1. - RISK CATEGORY I - BUILDING AND OTHER STRUCTURES THAT REPRESENT A LOW HAZARD TO HUMAN LIFE IN THE EVENT OF A FAILURE.
2. RISK CATEGORY **II** - BUILDING AND OTHER STRUCTURES EXCEPT THOSE LISTED IN RISK CATEGORY I, III OR IV.
3. RISK CATEGORY **III** - BUILDING AND OTHER STRUCTURES THAT REPRESENT A SUBSTANTIAL HAZARD TO HUMAN LIFE IN THE EVENT OF A FAILURE.
4. RISK CATEGORY IV - BUILDING AND OTHER STRUCTURES DESIGNATED AS ESSENTIAL FACILITIES.

INSPECTION OF FABRICATORS (IBC REFERENCE 1704.2.5)

WHERE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE REQUIRED BY THIS SECTION AND AS REQUIRED ELSEWHERE IN THIS CODE
1. THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.
2. SPECIAL INSPECTIONS REQUIRED BY THIS CODE ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTIONS. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS, OR SECTION 1704.2.5.2.

CONTRACTOR RESPONSIBILITY (IBC REFERENCE 1704.4)

THE CONTRACTOR :
A. OR SUB-CONTRACTOR RESPONSIBLE FOR WORK ON SEISMIC OR WIND RESISTING SYSTEM SHALL PROVIDE A WRITTEN NOTICE OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER CONTAINING THE FOLLOWING:
1. ACKNOWLEDGEMENT OF SPECIAL INSPECTION REQUIREMENTS
2. ACKNOWLEDGEMENT TO OBTAIN CONFORMANCE OF CONSTRUCTION DOCUMENTS,
3. DETAILING PROCEDURE OF SPECIAL INSPECTION DISTRIBUTION LIST INCLUDING FREQUENCY.
4. IDENTIFY PERSON WITHIN FIRM RESPONSIBLE FOR SPECIAL INSPECTION REPORT DISTRIBUTION INCLUDING CONTACT INFORMATION.

B. SHALL PROVIDE ADEQUATE NOTICE FOR SPECIAL INSPECTION AGENT TO COMPLETE THEIR INSPECTION PRIOR TO WORK BEING COVERED.
C. SHALL REQUIRE THAT SUBCONTRACTORS COMPLETE THEIR WORK SO THAT THE SPECIAL INSPECTOR CAN COMPLETELY CHECK A GIVEN AREA WITHOUT HAVING TO DOUBLE CHECK LATER.

SCHEDULE OF SPECIAL INSPECTIONS

SOILS (IBC REFERENCE 1705.6)

THE APPROVED SOILS REPORT, REQUIRED BY IBC SECTION 1803.2, SHALL BE USED TO DETERMINE COMPLIANCE VERIFY COMPLIANCE WITH INSPECTION CHART

SPECIAL INSPECTIONS FOR EXISTING SITE SOIL CONDITIONS > 12" IN DEPTH, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL:
1. VERIFY SITE HAS BEEN PROPERLY PREPARED PRIOR TO PLACEMENT OF PREPARED FILL
2. PREPARED FILL MEETS SPECIFICATIONS
3. TEST METHOD SPECIFIED TO MEASURE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT
4. VERIFY MAXIMUM LIFT THICKNESS
5. VERIFY FIELD TEST FOR IN-PLACE DRY DENSITY FILL
6. MINIMUM IN PLACE DRY DENSITY EXPRESSED AS PERCENTAGE OF MAXIMUM DRY DENSITY DETERMINED BY TEST
7. NUMBER OF FIELD TESTS AND FREQUENCY TO DETERMINE COMPLIANCE WITH ITEM #6.

VERIFICATION AND INSPECTION OF SOILS	FREQUENCY	AGENT
1. VERIFY MATERIAL BELOW FOOTING TO ACHIEVE BEARING CAPACITY	PERIODICALLY	GE
2. EXCAVATIONS EXTENDED TO PROPER DEPTH AND INTO PROPER MATERIAL	PERIODICALLY	GE
3. PERFORM CLASSIFICATIONS AND TESTING OF CONTROLLED FILL MATERIALS	PERIODICALLY	GE
4. VERIFY LIFT THICKNESS, MATERIAL AND DENSITIES AND COMPACTION	CONTINUOUS	GE
5. PRIOR TO PLACEMENT OF COMPACTED FILL OBSERVE SUB-GRADE IS PROPERLY PREPARED	PERIODICALLY	GE

SCHEDULE OF SPECIAL INSPECTIONS

STRUCTURAL STEEL (IBC REFERENCE 1705.2.1, AISC 360)

AISC TABLE N 5.4-1, 5.4-2, 5.4-3

THE INSPECTION TASKS ARE AS FOLLOWS:
O - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER, BOLTED CONNECTION, AND STEEL ELEMENT,

INSPECTIONS TASKS PRIOR TO WELDING	QC	QA
WELDING PROCEDURE SPECIFICATION (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
WELDER IDENTIFICATION SYSTEM	O	O
FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - BACKING TYPE AND (WELD QUALITY AND LOCATION) - BACKING TYPE AND FIT (OF APPLICABLE	O	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS - DIMENSIONS (ALIGNMENT, GAPS AT ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	--
INSPECTION TASKS DURING WELDING	**QC**	**QA**
USE OF QUALIFIED WELDERS	O	O
CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING - EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITION - WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDED MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN./MAX) - PROPER POSITION (F,V,H,OH)	O	O
WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS	O	O
INSPECTION TASKS AFTER WELDING	**QC**	**QA**
WELDS CLEANED	O	O
SIZE, LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTABLE CRITERIA - CRACK PROHIBITION - WELD/BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY	P	P
ARC STRIKES	P	P
k-AREA	P	P
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT MEMBER	P	P

AISC TABLE N 5.6-1, 5.6-2, 5.6-3

INSPECTION PRIOR TO BOLTING	QC	QA
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	O
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
PROPER FASTENERS SELECTED FOR THE JOINT DETAILS (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
CONNECTING ELEMENTS INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION ASSEMBLES, OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED,	P	O
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O
INSPECTION DURING BOLTING	**QC**	**QA**
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS IF REQUIRED ARE POSITIONED AS REQUIRED	O	O
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRE-TENSIONING OPERATION	O	O
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O
FASTENERS ARE PRE-TENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O
INSPECTION AFTER BOLTING	**QC**	**QA**
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P

AISC TABLE N 6.1

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT	QC	QA
PLACEMENT AND INSTALLATION OF STEEL DECK	P	P
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	P	P

SCHEDULE OF SPECIAL INSPECTIONS

WOOD (IBC REFERENCE 1705.5)

SPECIAL INSPECTION OF THE FABRICATION PROCESS OF PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.2.5

HIGH LOAD DIAPHRAGMS DESIGNED IN ACCORDANCE WITH TABLE 2306.2 SHALL BE INSTALLED WITH SPECIAL INSPECTIONS AS INDICATED IN SECTION 1704.2. THE SPECIAL INSPECTOR SHALL INSPECT THE WOOD STRUCTURAL PANEL SHEATHING TO ASCERTAIN WHETHER IT IS OF THE GRADE AND THICKNESS SHOWN ON THE APPROVED BUILDING PLANS. ADDITIONALLY, THE SPECIAL INSPECTOR MUST VERIFY THE NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, THE NAIL OR STAPLE DIAMETER AND LENGTH, THE NUMBER OF FASTENER LINES AND THAT THE SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREES WITH THE APPROVED BUILDING PLANS

METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER, WHERE A TRUSS CLEAR SPAN IS 60 FEET (18,288 MM) OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.

SCHEDULE OF SPECIAL INSPECTIONS

CAST-IN-PLACE CONCRETE (IBC REFERENCE 1705.3)

VERIFICATION AND INSPECTION	FREQUENCY	REFERENCED STANDARDS	AGENT
1. INSPECTION OF REINFORCING STEEL, INCLUDING POST-TENSIONING TENDONS. VERIFY QUANTITY, SIZE AND PLACEMENT OF REINFORCEMENT	PERIODIC	IBC 1910.4 ACI 318: 3.5 ACI 318: 7.1-7.7	
2. INSPECT REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2B.	PERIODIC	AWS D1.4 ACI 318: 3.5.2	ASNT
3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED.	CONTINUOUS	IBC 1908.5 IBC 1909.1 ACI 318 21.2.8 ACI 318 8.1.3	
4. INSPECTION OF ANCHORS INTO HARDENED CONCRETE	PERIODIC	ACI 318 3.8.6 ACI 318 8.1.3 ACI 318 21.2.8 IBC 1909.1	
5. VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC	IBC 1904.2 IBC 1910.2 IBC 1910.3 ACI 318: Ch. 4 ACI 318: Ch.5.2-5.4	ACI
6. SAMPLE FRESH CONCRETE, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE TEMPERATURE OF FRESH CONCRETE. TAKE THE FIRST SET OF MOLDING SPECIMENS FOR STRENGTH TEST. SEE SPECIFICATIONS FOR FREQUENCY OF TESTING REQUIRED	CONTINUOUS	IBC 1910.10 ASTM C 172 ASTM C 31 ACI 318: 5.6 ACI 318: 5.8	ACI
7. MONITOR CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	IBC 1910.6 IBC 1910.7 IBC 1910.8 ACI 318: 5.9 ACI 318: 5.10	ACI
8. MONITOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	IBC 1910.9 ACI 318: 5.11–5.13	ACI
9. INSPECTION OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES; B. GROUTING OF BONDED PRESTRESSING TENDONS IN SEISMIC-FORCE-RESISTING SYSTEM.	CONTINUOUS CONTINUOUS	ACI 318: 18.20 ACI 318: 18.18,4	ACI
10. ERECTION OF PRECAST CONCRETE MEMBERS.	PERIODIC	ACI 318: Ch. 16	
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	PERIODIC	ACI 318: 6.2	ACI
12. INSPECT FORMWORK FOR SHAPE AND DIMENSIONS	PERIODIC	ACI 318: 6.1.1	

SCHEDULE OF SPECIAL INSPECTIONS

MASONRY (IBC REFERENCE 1705.4, ACI 530)

LEVEL A SPECIAL INSPECTION:
EMPIRICAL, VENEER, GLASS UNIT. RISK CATEGORY I, II, OR III
- NO TESTING
- VERIFY COMPLIANCE WITH SUBMITTAL

ENGINEERED VENEER OR CLASS UNIT - RISK CATEGORY IV
ENGINEERED MASONRY, RISK CATEGORY I, II OR III
(NOT VENEER, NOT GLASS UNIT)

LEVEL B SPECIAL INSPECTION

VERIFICATION AND INSPECTION	FREQUENCY	REFERENCED STANDARDS: TMS 402 ACI 530 ASCE 5	REFERENCED STANDARDS: TMS 602 ACI 530.1 ASCE 6	AGENT
1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND APPROVED SUBMITTALS TO BE VERIFIED.	PERIODIC		ART. 1.5	SMSI
2. AS MASONRY CONSTRUCTION BEGINS VERIFY THE FOLLOWING:				SMSI
a. PROPORTIONS OF SITE PREPARED MORTAR	PERIODIC		ART 2.1, 2.6A	
b. CONSTRUCTION OF MORTAR JOINTS	PERIODIC		ART 3.3B	
c. GRADE AND SIZE OF PRESTRESSING TENDONS	PERIODIC		ART 3.6B	
d. LOCATION OF REINFORCEMENT, CONNECTORS, PRE-STRESS TENDONS AND ANCHORS	PERIODIC		ART 3.4 3.6A	
e. PRESTRESSING TECHNIQUE	PERIODIC			
f. PROPERTIES OF THIN BED MORTAR.	PERIODIC		ART 2.1C	
3. PRIOR TO GROUTING VERIFY THE FOLLOWING:				SMSI
a. GROUT SPACE IS CLEAN	PERIODIC		ART 3.2D	
b. GRADE, TYPE AND SIZE OF REINFORCEMENT, ANCHOR BOLTS, TENDONS	PERIODIC		ART 2.4, 3.4	
c. PLACEMENT OF REINFORCEMENT	PERIODIC		ART 3.2E, 3.4, 3.6A	
d. PROPORTIONS OF SITE PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	PERIODIC		ART 2.6B, 2.4G.1.b	
e. CONSTRUCTION OF MORTAR JOINTS	PERIODIC		ART 3.3B	
4. DURING CONSTRUCTION THE INSPECTION PROGRAM TO VERIFY:				SMSI
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	PERIODIC	1.16.4.3	ART 3.3F	
b. TYPE, SIZE AND LOCATION OF ANCHORS ALONG WITH OTHER DETAILS TO CONNECT TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	PERIODIC	SEC 1.17.1.(e)		
c. WELDING OF REINFORCING BARS	CONTINUOUS	SEC 2.1.9.7.2		
d. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD AND HOT WEATHER (<40 OR >90 DEGREES F)	CONTINUOUS	3.3.3.4(b)	ART 1.8C 1.8D	
e. APPLICATION AND MEASUREMENTS OF PRESTRESSING FORCE.	CONTINUOUS		ART 3.6B	
f. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.			ART 3.3, 3.6C	
g. PLACEMENT OF ACC UNITS AND CONSTRUCTION OF THIN BED MORTAR JOINTS			ART 3.3, B.8	
5. PREPARATION OF ANY REQUIRED GROUT, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED	PERIODIC		ART 1.4, B.2 a.3 1.4.B.2.b.3 1.4 B.2.c.3 1.4 B.3.1.4B.4	SMSI

REQUIRED TESTS:
1. VERIFICATION OF f'm AND f'mc PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.
2. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF CONSOLIDATING GROUT.

SCHEDULE OF SPECIAL INSPECTIONS

SPRAYED FIRE-RESISTANT MATERIALS (IBC REFERENCE 1705.14)

THE SPECIAL INSPECTOR SHALL VERIFY:
1. STRUCTURAL MEMBER SURFACE CONDITIONS:
SURFACES SHALL BE PREPARED IN ACCORDANCE WITH THE APPROVED FIRE-RESISTANCE DESIGN AND THE APPROVED MANUFACTURERS WRITTEN INSTRUCTIONS. THE PREPARED SURFACES SHALL BE INSPECTED PRIOR TO APPLICATION OF SPRAYED FIRE-RESISTANT MATERIAL
2. APPLICATION:
AS SPECIFIED IN THE MANUFACTURER'S APPROVED WRITTEN INSTRUCTIONS,
a. AMBIENT TEMPERATURE SHALL HAVE A MINIMUM AMBIENT TEMPERATURE BEFORE AND AFTER APPLICATION
b. THE AREA OF APPLICATION SHALL BE VENTILATED DURING AND AFTER APPLICATION
3. THICKNESS:
a. AVERAGE THICKNESS SHALL NOT BE LESS THAN THE THICKNESS REQUIRED BY THE APPROVED FIRE-RESISTANT DESIGN.
b. INDIVIDUAL THICKNESSES WHICH EXCEED THE SPECIFIED THICKNESS BY MORE THAN 1/4" SHALL BE RECORDED AS THE SPECIFIED THICKNESS PLUS 1/4"
c. FOR DESIGN THICKNESS OF 1", THE MINIMUM ALLOWABLE THICKNESS SHALL BE THE DESIGN THICKNESS MINUS 25%
d. FOR DESIGN THICKNESS 1", THE MINIMUM ALLOWABLE THICKNESS SHALL BE THE DESIGN THICKNESS MINUS 25%
e. THICKNESS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E 605
f. FLOORS, ROOF AND WALL ASSEMBLIES - USE AVERAGE OF NOT LESS THAN FOUR MEASUREMENTS FOR EACH 1000SF OF SPRAYED AREA OR PART THEREOF
g. STRUCTURAL FRAMING MEMBERS - TEST NOT LESS THAN 25% OF MEMBERS ON EACH FLOOR
4. DENSITY:
DENSITY SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E 605 AND SHALL NOT BE LESS THAN THE DENSITY SPECIFIED ON THE APPROVED FIRE-RESISTANT DESIGN
5. BOND STRENGTH:
BOND STRENGTH SHALL BE TESTED IN ACCORDANCE WITH ASTM E 736 BY TESTING IN-PLACE SAMPLES AND SHALL NOT BE LESS THAN 150PSF
a. FLOOR, ROOF AND WALL ASSEMBLIES - TAKE NOT LESS THAN ONE SAMPLE FOR EVERY 10,000 SF OR PART THEREOF IN EACH STORY
b. STRUCTURAL FRAMING MEMBERS INCLUDING BEAMS, GIRDERS, JOISTS, TRUSSES AND COLUMNS - TAKE NOT LESS THE ONE SAMPLE FOR EVERY 10,000 SF OF EACH TYPE OF MEMBER OR PART THEREOF IN EACH STORY

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STATE OF MISSOURI
DOUGLAS O. FITZPATRICK
NUMBER
PE-2014016124
PROFESSIONAL ENGINEER
02/08/21

PROJECT TITLE

John Knox Village
Meadows Building - Phase II

SFCS Architecture Engineering Planning Interiors
SFCS Inc• 1927 South Tryon Street
Charlotte, North Carolina 28203
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PROJECT DESIGNER	TJM
PROJECT ARCHITECT	DAS
PROJECT ENGINEER	
DRAWN BY	SRG
CHECKED BY	CES
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Revision 1	02/08/21

DRAWING TITLE

SPECIAL INSPECTION NOTES

COMM. NO.	DATE
19132.00	JANUARY 18, 2021

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PLOT DATE
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COMM NO.
DRAWING NO.

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GENERAL NOTES

NO SCALE

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PLUMBING SPECIALTIES SCHEDULE

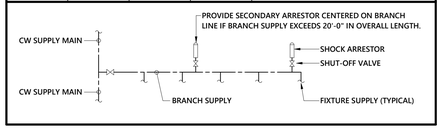
SYMBOL	DESCRIPTION	CONNECTION SIZE				SPECIFICATION	REMARKS
		W	V	CW	HW		
SA-x	SHOCK ARRESTOR, SUFFIX INDICATES PDI SIZE	-	-	x	-	EQUIPMENT: SIOUX CHIEF 650 SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED.	SEE SHOCK ARRESTOR TABLE THIS SHEET
x-C/S	BALANCING VALVE, THERMOSTATIC, AUTOMATIC, SUFFIX INDICATES PIPE SIZE, SEE FLOOR PLANS	-	-	x	-	EQUIPMENT: CIRCUIT SOLVER CS SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED.	PROVIDE 110°F MODEL
HB1	HOSE BIBB, EXTERIOR, EXPOSED, STAINLESS STEEL FACE PLATE, FREEZELESS, ANTI-SIPHON	-	-	3/4"	-	EQUIPMENT: ZURN Z1310-34EL, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	MOUNT 18" AFF
HB2	HOSE BIBB, INTERIOR, EXPOSED, STAINLESS STEEL FACE PLATE, ANTI-SIPHON	-	-	3/4"	-	EQUIPMENT: ZURN Z1333-C-34EL, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	MOUNT 18" AFF
HB3	ROOFTOP HYDRANT, NON-FREEZE, AUTOMATIC DRAINING, ANTI-SIPHON, VACUUM BREAKER	-	-	1"	-	EQUIPMENT: MAPA MPH-24FP:24/9 FINISH: STAINLESS STEEL	
HB4	HOSE BIBB, EXTERIOR, EXPOSED, EXTERIOR CHROME FINISH FREEZELESS, ANTI-SIPHON, DUAL TEMPERATURE	-	-	3/4"	3/4"	EQUIPMENT: ZURN Z1348-8FP WITH AUTOMATIC DRAINING HOSE CONNECTION BACKFLOW PREVENTER.	MOUNT 42" AFF
WB1	WASHING MACHINE CONNECTION BOX, RECESSED IN WALL, MULTI-BOX SYSTEM, SINGLE BOX, WHITE PVC, CENTER DRAIN, WITH WATER HAMMER ARRESTORS AND FACEPLATE	3"	2"	1/2"	1/2"	FIXTURE: WATER-TITE MBS1211HA STOPS: INTEGRAL 1/4 TURN WITH HAMMER ARRESTOR SUPPLIES: (2) 5/8" BRAIDED S.S. FLEXIBLE HOSES	2" DRAIN OUTLET, 2" STANDPIPE WITH 2" P-TRAP. SEE NOTE 1 BELOW
WB2	INDIRECT DRAIN CONNECTION BOX, RECESSED IN WALL, MULTI-BOX SYSTEM, SINGLE AUXILLIARY DRAIN & ADAPTER, WHITE PVC, WITH LOUVERED FACEPLATE	2"	1-1/2"	-	-	FIXTURE: WATER-TITE MBS1200DB3 WITH MB1250AD AUX DRAIN ADAPTER 2" DRAIN OUTLET WITH 2" DEEP SEAL P-TRAP	SEE NOTE 1 BELOW
AAV1	AIR ADMITTANCE VALVE	-	2"	-	-	FIXTURE: STUDOR INC. - "MINI-VENT"	
IMB1	ICE MAKER BOX, RECESSED IN WALL, MULTI-BOX SYSTEM, SINGLE BOX, WHITE PVC, NO DRAIN WITH WATER HAMMER ARRESTOR AND FACEPLATE	-	-	1/2"	-	FIXTURE: WATER-TITE DW1211HA STOP: QUARTER TURN WITH HAMMER ARRESTOR SUPPLY: 1/4" FLEXIBLE HOSE	SEE NOTE 1 BELOW PROVIDE INLINE DOUBLE CHECK VALVE WILKINS SERIES 700
CO	PLUG CLEANOUT, CAST IRON BODY	**	-	-	-	CLEANOUT: ZURN Z-1440-BP, BRONZE PLUG, CLEANOUT SIZE SHALL MATCH PIPE SIZE	GAS / WATER TIGHT
WCO	WALL CLEANOUT, CAST IRON BODY, STAINLESS STEEL WALL PLATE	**	-	-	-	CLEANOUT: ZURN Z-1446-BP, BRONZE PLUG, CLEANOUT SIZE SHALL MATCH PIPE SIZE	GAS / WATER TIGHT
FCO	FLOOR CLEANOUT, CAST IRON BODY, NICKEL BRONZE TOP, ADJUSTABLE	**	-	-	-	CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG CLEANOUT SIZE SHALL MATCH PIPE SIZE	GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED FLOOR
YCO	YARD CLEANOUT, CAST IRON BODY, NICKEL BRONZE TOP, ADJUSTABLE, INSTALLED IN 18"x18"x6" CONCRETE PAD	**	-	-	-	CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG INSTALL IN 18"x 18"x 6" DEEP CONCRETE PAD	GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED GRADE
FD1	FLOOR DRAIN, CAST IRON BODY, ROUND NICKEL BRONZE GRATE, ADJUSTABLE	**	**	-	-	DRAIN: ZURN ZN-415-B, 6" DIAMETER GRATE P-TRAP: 3" DEEP SEAL	INSTALL TOP FLUSH WITH FINISHED FLOOR. SEE NOTE 2 BELOW.
FD2	FLOOR DRAIN, CAST IRON BODY, ROUND NICKEL BRONZE GRATE, ADJUSTABLE	**	**	-	-	DRAIN: ZURN ZN-415-I, 9" DIAMETER RECESSED GRATE P-TRAP: 3" CAST IRON, DEEP SEAL	INSTALL TOP OF DRAIN LIP FLUSH WITH FLOOR. SEE NOTE 2 BELOW.
TP1	TRAP PRIMER, PROVIDE DISTRIBUTION UNIT WHEN SERVING MORE THAN ONE FLOOR DRAIN	-	-	1/2"	-	PRIMER: PPP PRODUCTS MODEL P-1 PROVIDE 1/2" COPPER PIPING SLOPED CONTINUOSLY TO FLOOR DRAIN(S)	INSTALL TOP OF DRAIN LIP FLUSH WITH FLOOR. SEE NOTE 2 BELOW.
GD1	GARAGE AREA DRAIN, CAST IRON BODY, SECURED CAST IRON HINGED GRATE WITH SEDIMENT BUCKET	**	**	-	-	DRAIN: ZURN ZN-415-I, 9" DIAMETER RECESSED GRATE P-TRAP: 3" CAST IRON, DEEP SEAL	PROVIDE ACCESS DOOR FOR CONCEALED INSTALLATIONS
TD1	TRENCH DRAIN, 6' - 8' LONG, INTEGRAL FRAMES, DUCTILE IRON SLOTTED GRATE	**	**	-	-	DRAIN: ZURN Z886-HD-DGC, 1 SECTION WITH 2 CLOSED END CAPS AND A 4" BOTTOM P-TRAP: 4" DEEP DEAL	
RD1	PRIMARY ROOF DRAIN, 15" DIA., CAST IRON BODY, SUMP RECEIVER CAST IRON DOME.	**	**	-	-	DRAIN: ZURN ZC100-DP-DR WITH TOP SET DECK PLATE AND ADJUSTABLE DRAIN RISER.	SET TOP OF DRAIN BODY 1.5" BELOW THE ADJACENT FINISHED ROOF ELEVATION.
RD2	SECONDARY ROOF DRAIN, 15" DIA., CAST IRON BODY, SUMP RECEIVER, AND CAST IRON SOLID TOP DOME	**	**	-	-	DRAIN: ZURN ZC100-DP-DR-W4-ST WITH TOP SET DECK PLATE, ADJUSTABLE DRAIN RISER, 4" HIGH INTERNAL WATER DAM AND SOLID TOP DOME	SET WATER DAM ELEVATION 4" ABOVE THE ADJACENT FINISHED ROOF ELEVATION.
NZ1	DOWNSPOUT NOZZLE ALL POLISHED BRONZE BODY DECORATIVE NICKEL BRONZE TOP	**	**	-	-	DRAIN: ZURN ZAB-199-SS ALL POLISHED BRONZE BODY DECORATIVE NICKEL BRONZE TOP WITH REMOVEABLE STAINLESS BIRD SCREEN	

NOTES:
1. PROVIDE FIRE RATED BOX WHERE LOCATED IN A RATED WALL. COORDINATE ALL LOCATIONS PRIOR TO ORDERING.
2. PROVIDE TRAP PRIMER EQUAL TO PPP PRODUCTS MODEL P-1. SEE SCHEDULE THIS SHEET.
** MATCH PIPE SIZE SHOWN ON PLANS, SEE PLANS.

APPROVED EQUALS:	PRODUCT TYPE:	ACCEPTED MANUFACTURERS:
THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED.	SHOCK ARRESTOR HOSE BIBBS DRAINS BACKFLOW PREVENTER	SIOUX CHIEF, PPP INC., ZURN, WATTS ZURN, WOODFORD, ZURN, J.R. SMITH ZURN, J.R. SMITH, WADE WILKINS, WATTS, APOLLO

SHOCK ARRESTOR TABLE

DRAWING SYMBOL	FIXTURE UNITS	P.D.I. WH201 DESIGNATION	ARRESTOR SIZE	REMARKS
SA-A	1 - 11	A	1/2"	INSTALL SHOCK ARRESTORS PER THE PLUMBING DRAINAGE INSTITUTE (P.D.I.) GUIDELINES.
SA-B	12 - 32	B	3/4"	
SA-C	33 - 60	C	1"	ACCEPTED MANUFACTURERS: SIOUX CHIEF, WATTS, PPP INC., ZURN, FNW
SA-D	61 - 113	D	1-1/4"	
SA-E	114 - 154	E	1-1/2"	



PLUMBING EQUIPMENT SCHEDULE

SYM.	DESCRIPTION	CONN. SIZE		SPECIFICATION	REMARKS
		INLET	OUT		
WH1/ WH2	COMMERCIAL WATER HEATER GAS FIRED, TANK TYPE, 100 GALLON CAPACITY, 30" DIAMETER	1-1/2"	1-1/2"	EQUIPMENT: A.O. SMITH BTH-199 GAS INPUT: 199,000 BTUH ELECTRICAL: 120V, 1 PHASE RECOVERY: 587 GPH AT 80° RISE.	SET OUTLET TEMPERATURE TO 120°F SEE NOTES 1 & 3
WH3	WATER HEATER, ELECTRIC, 48 GALLON STORAGE, (2) 4.5kW ELEMENTS, NON-SIMULTANEOUS OPER.	3/4"	3/4"	EQUIPMENT: A.O. SMITH ENLB-50 ELEC: 208V/1P, 4.5 kW RECOVERY: 23 GPH AT 80° RISE	SET OUTLET TEMPERATURE TO 120°F SEE NOTES 1 & 2
ET1/ ET2	THERMAL EXPANSION TANK 6.4 GALLON CAPACITY	3/4"	-	EQUIPMENT: AMTROL ST-12-C	SEE NOTE 6
RCP1	CIRCULATION PUMP ALL BRONZE CONSTRUCTION	1-1/2"	1-1/2"	PUMP: B&G ECOCIRC XL 45-55 ELEC: 1/2 HP, 120V RATED FOR 20 GPM AT 25' HEAD	SEE NOTE 4
RCP2	CIRCULATION PUMP ALL BRONZE CONSTRUCTION	3/4"	3/4"	PUMP: B&G ECOCIRC 20-35 ELEC: 1/12 HP, 120V RATED FOR 10 GPM AT 10' HEAD	SEE NOTE 4
MV1	THERMOSTATIC MIXING VALVE ASSE 1017 CERTIFIED	1"	1"	EQUP: LAWLER 802 SERIES 86006 WITH HIGH-LOW MANIFOLD	SET OUTLET TEMPERATURE TO 115°F
MV2	THERMOSTATIC MIXING VALVE ASSE 1070 CERTIFIED	1/2"	1/2"	EQUIP: ZURN MODEL ZW1017XL, WITH INTEGRAL CHECK VALVES AND SCREENS ON INLETS	SET OUTLET TEMPERATURE TO 110°F. SEE NOTE 5
BFP1	REDUCED PRESSURE PRINCIPLE ASSEMBLY	4"	4"	EQUIP: ZURN MODEL 375 SERIES	INSTALL PER MFG. INSTRUCTIONS. SEE SCHEMATIC 1/P0.3
SP1	ELEVATOR SUMP PUMP & OIL DETECTION SYSTEM, CONTROL PANEL WITH AUDIBLE, VISUAL AND REMOTE ALARMS.	-	2"	EQUIP: LIBERTY ELV-290 SERIES ELECTRICAL: 1/2 H.P. 120V FLOW: 50 GPM AT 20 FT. HEAD PROVIDE WITH OIL DETECTION MONITOR, CONTROL PANEL AND REMOTE ALARM.	PROVIDE BACKWATER CHECK VALVE AND SHUT-OFF VALVE ON DISCHARGE LINE. SEE SCHEMATIC 4/P0.3

NOTES:
1. WATER HEATER SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE 90.1
2. BASIS-OF-DESIGN WATER HEATER CONTAINS (2) TWO ELEMENTS, WITH NON-SIMULTANEOUS OPERATION.
3. COMMERCIAL GAS FIRED WATER HEATER SHALL HAVE AT LEAST A 5 YEAR WARRANTY, STAINLESS STEEL BURNERS, REDUNDANT GAS VALVES, SEALED COMBUSTION CHAMBER, FAN ASSISTED COMBUSTION, ASME 150 PSI WORKING PRESSURE, INLET AND OUTLET TEMPERATURE GAUGE, TEMP GAUGE, 150 PSI T&P RELIEF VALVE, OPERATING LIMIT AND HIGH LIMIT CONTROLS, U.L. AND FM APPROVED GAS TRAIN, FLOW SWITCH, 100% SAFETY SHUTDOWN AND LOW NOX EMISSIONS. PROVIDE WITH FACTORY CONDENSATE NEUTRALIZATION KIT. WATER HEATER SHALL EXCEED ASHRAE 90.1 REQUIREMENTS.
4. INTERLOCK WITH FULLY ADJUSTABLE AQUASTAT AND 7-DAY, 24 HOUR TIMER.
5. INSTALL UNIT BELOW LAVATORY / SINK AND OUT OF ADA KNEE-SPACE CLEARANCE AREA
6. EXPANSION TANK SHALL BE CHARGED TO MEET FINAL OPERATING PRESSURE FOR DOMESTIC WATER SYSTEM.

** MATCH PIPE SIZE SHOWN ON PLANS, SEE PLANS.

APPROVED EQUALS:	PRODUCT TYPE:	ACCEPTED MANUFACTURERS:
THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED.	WATER HEATERS EXPANSION TANKS SUMP PUMPS MIXING VALVE (MV1) MIXING VALVE (MV2)	A.O. SMITH, BRADFORD WHITE, LOCHINVAR AMTROL, A.O. SMITH, WATTS, WESSLES LIBERTY, STANCOR, ALDERON IND. LAWLER, LEONARD, DELTA ZURN, SYMMONS, LEONARD

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CONNECTION SIZE				SPECIFICATION	REMARKS
		W	V	CW	HW		
P1	TOILET, STANDARD, PRIVATE RESIDENT TANK TYPE, ELONGATED SEAT, WHITE VITREOUS CHINA, FLOOR MOUNTED CLOSED SEAT WITH COVER, 1.6 GPF	3"	2"	1/2"	-	FIXTURE: GERBER "VIPER" 21-518 MATERIAL: WHITE VITREOUS CHINA SEAT: OLSONITE #94 SUPPLY/STOP: ZURN Z-8806-CR	RIM HEIGHT 15" A.F.F. SEE NOTE 1 BELOW
P1A	TOILET, ADA-COMPLIANT, PRIVATE RESIDENT TANK TYPE, ELONGATED SEAT, WHITE VITREOUS CHINA, FLOOR MOUNTED CLOSED SEAT WITH COVER, 1.28 GPF	3"	2"	1/2"	-	FIXTURE: GERBER "VIPER" 21-518 MATERIAL: WHITE VITREOUS CHINA SEAT: OLSONITE #94 SUPPLY/STOP: ZURN Z-8806-CR	RIM HEIGHT 17" A.F.F. SEE NOTES 1 BELOW
P1B	TOILET, ADA-COMPLIANT, PUBLIC TANK TYPE, ELONGATED SEAT, WHITE VITREOUS CHINA, FLOOR MOUNTED CLOSED SEAT WITH COVER, 1.28 GPF	3"	2"	1/2"	-	FIXTURE: GERBER "VIPER" 21-518 MATERIAL: WHITE VITREOUS CHINA SEAT: OLSONITE #94 SUPPLY/STOP: ZURN Z-8806-CR	RIM HEIGHT 17" A.F.F. SEE NOTES 1 BELOW
P3	LAVATORY, PRIVATE RESIDENT INTEGRAL OVAL BOWL IN WHITE CULTURED MARBLE COUNTER TOP MANUAL FAUCET, 1.5 GPM AERATOR	2"	1-1/2"	1/2"	1/2"	FAUCET: PEERLESS P136LF-M WITH POP-UP DRAIN AND STOPPER P-TRAP: ZURN Z-8701 (1-1/4"x1-1/2", 17 GA.) SUPPLIES/STOPS: ZURN 8806-XL-LR-LK	
P3A	LAVATORY, ADA-COMPLIANT, PRIVATE RESIDENT INTEGRAL OVAL BOWL IN WHITE CULTURED MARBLE COUNTER TOP MANUAL FAUCET, 1.5 GPM AERATOR	2"	1-1/2"	1/2"	1/2"	FAUCET: PEERLESS P136LF-M WITH POP-UP DRAIN AND STOPPER P-TRAP: ZURN Z-8701 (1-1/4"x1-1/2", 17 GA.) SUPPLIES/STOPS: ZURN 8806-XL-LR-LK	
P3B	LAVATORY, PUBLIC, ADA-COMPLIANT 19"x16" UNDERCOUNTER OVAL BOWL BATTERY-POWERED SENSOR FAUCET, 0.5 GPM AERATOR	2"	1-1/2"	1/2"	1/2"	FIXTURE: AMERICAN STANDARD 0496.221 FAUCET: AMERICAN STANDARD 6055.105, 0.5 GPM GRID DRAIN: ZURN 8743; P-TRAP: ZURN Z-8701 (1-1/4"x1-1/2", 17 GA.) SUPPLIES/STOPS: ZURN 8806-XL-LR-LK	
P4A	WATER COOLER & BOTTLE FILLER, A.D.A. COMPLIANT, STAINLESS STEEL FINISH, BI-LEVEL DOUBLE BOWL, VANDAL RESISTANT, IN-WALL INSTALLATION, INTEGRAL WATER FILTER, SENSOR OPERATED BOTTLE FILLER WITH AUTO SHUT-OFF.	2"	1-1/2"	1/2"	-	FIXTURE: ELKAY LZSTL8WS(VR)*K ELEC: 550 WATT, 120 VOLT, SINGLE PHASE P-TRAP: ZURN Z-870 (1-1/4"x1-1/2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK	SEE NOTE 4 BELOW
P5	SINK, PRIVATE RESIDENT, 31"x 20"x8", DOUBLE BLOW 20 GAUGE STAINLESS STEEL UNDERMOUNT MANUAL FAUCET WITH PULL-OUT SPRAY, 1.8 GPM	2"	1-1/2"	1/2"	1/2"	FIXTURE: ELKAY ELUH3220 FAUCET: PEERLESS P18550LF, 1.8 GPM BASKET STRAINER: ZURN Z-8740 P-TRAP: ZURN 8703 (1-1/2"x2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK DISPOSAL: ISE BADGER 1, 1/3 HP, WITH POWER CORD	PROVIDE WATER AND WASTE CONNECTIONS FOR ADJACENT DISHWASHER.
P5A	SINK, PRIVATE RESIDENT, ADA COMPLIANT, 31"x16"x5-1/2", DOUBLE BOWL UNDERMOUNT, 18 GAUGE STAINLESS STEEL MANUAL FAUCET WITH PULL-OUT SPRAY, 1.8 GPM	2"	1-1/2"	1/2"	1/2"	FIXTURE: ELKAY ELUHAD3216 FAUCET: PEERLESS P18550LF, 1.8 GPM BASKET STRAINER: ZURN Z-8740 P-TRAP: ZURN 8703 (1-1/2"x2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK DISPOSAL: ISE BADGER 1, 1/3 HP, WITH POWER CORD	PROVIDE WATER AND WASTE CONNECTIONS FOR ADJACENT DISHWASHER.
P5C	MOP SINK, 24"x 24"x 10", MOLDED STONE, 12" STAINLESS STEEL WALL GUARDS, SERVICE FAUCET, HOSE, MOP HANGER BRACKET.	3"	2"	1/2"	1/2"	FIXTURE: FIAT MSBID2424-100, 832AA, (2) MSG3624, 889CC, E88AA FAUCET: FIAT 830-AA DRAIN: FIAT 1453-BB P-TRAP: 3" DEEP SEAL, CAST IRON	PROVIDE CHECK VALVES ON HW AND CW SUPPLIES.
P6	BATH AND SHOWER, PRIVATE RESIDENT, ADA - ADAPTABLE ONE-PIECE DESIGN, WHITE FRP, PRESSURE BALANCED SHOWER VALVE	2"	1-1/2"	1/2"	1/2"	FIXTURE: STERLING S711211100 60 x 21 FAUCET: KOHLER KT510581-4-BN VALVE: KOHLER K304-KS-NA DIVERTER VALVE: DELTA R1000 HANDHELD: GROHE 26077 ELBOW: GROHE 28627 WASTE OVERFLOW: OATEY 46121 DRAIN: MCQUIRE 155-WC, 2" P-TRAP	PROVIDE RIGHT OR LEFT HAND CONTROLS PER ARCHITECTURAL PLANS AND ELEVATIONS
P6A	SHOWER, PRIVATE RESIDENT, ADA, ROLL-IN, ONE-PIECE DESIGN WHITE FRP, PRESSURE BALANCED SHOWER VALVE	2"	1-1/2"	1/2"	1/2"	FIXTURE: AQUARIUS MPB6036-BF FAUCET: KOHLER K-72415-BN VALVE: DELTA R10000-UNWS DIVERTER VALVE: DELTA T11800 HANDHELD: KOHLER K-45906-BN, K-45982-BN ELBOW: GROHE 28627 GRID DRAIN: KOHLER K-9132-BN SEAT: BOBRICK B-517	
P6B	JOB-BUILT SHOWER PRESSURE BALANCED SHOWER VALVE, 1.5 GPM WALL SHOWERHEAD	2"	1-1/2"	1/2"	1/2"	FIXTURE: AQUARIUS AB3460WH FAUCET: KOHLER K-72419-BN VALVE: DELTA R10000-UNWS DIVERTER VALVE: KOHLER K304-KS-NA HANDHELD: KOHLER K-45906-BN, K-45982-BN ELBOW: GROHE 28627 GRID DRAIN: KOHLER K-9132-BN	

NOTES:
1. PROVIDE HEAVY DUTY CAST IRON CLOSET FLANGE WITH COMPRESSION SEAL AND TEST CAP EQUAL TO ZURN CF2980-CI4. OFFSET FLANGES ARE NOT ACCEPTABLE.
2. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1222-EZ (-SL) SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.
3. PROVIDE PRE-MANUFACTURED A.D.A. COMPLIANT INSULATION KIT FOR EXPOSED P'TRAP AND SUPPLY TRIM UNDER SINK.
4. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1225-EZ (-SL) SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.

APPROVED EQUALS:	PRODUCT TYPE:	ACCEPTED MANUFACTURERS:
THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED.	VITREOUS CHINA FAUCETS WATER COOLERS SUPPLIES, STOPS HOSE BIBBS UTILITY SINKS	GERBER, KOHLER, AMERICAN STANDARD, PEERLESS, DELTA, AMERICAN STANDARD, ELKAY, HALSEY TAYLOR, HAWS ZURN, MCGUIRE, BRASSCRAFT ZURN, J.R. SMITH, WOODFORD FIAT, FLORESTONE, STERN WILLIAMS

GENERAL NOTES

PERMIT SET

BYRON T. FIKE — REGISTERED ARCHITECT — STATE OF NORTH CAROLINA — 2014023016

02/08/2021

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PROJECT TITLE

John Knox Village

PROJECT DESIGNER	: DESIGNER
PROJECT ARCHITECT	: PA
PROJECT ENGINEER	: Designer
DRAWN BY	: TAW
CHECKED BY	: DAR
APPROVED BY	: -

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

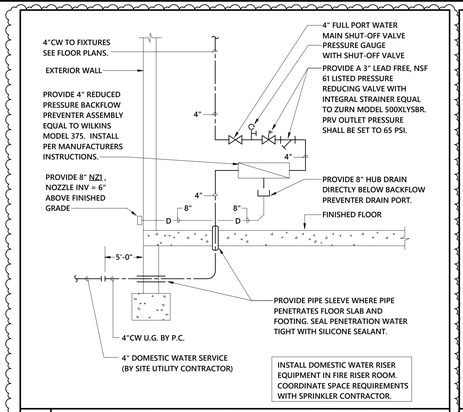
DRAWING TITLE

PLUMBING SCHEDULES

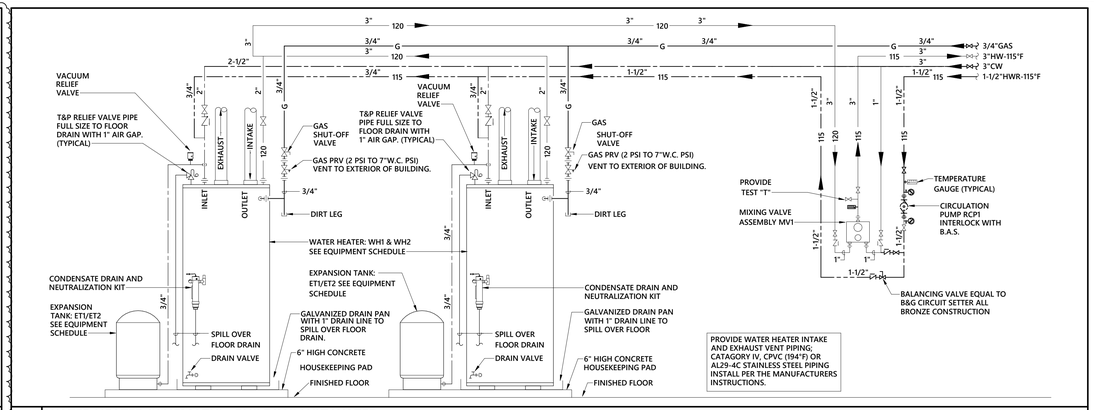
COMM. NO.	DATE
19132.00	January 18, 2021

DRAWING P0.2

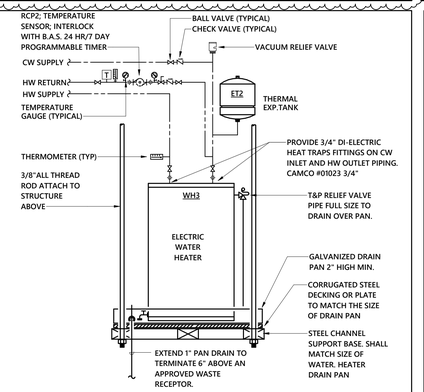
SHEET 2 OF 18



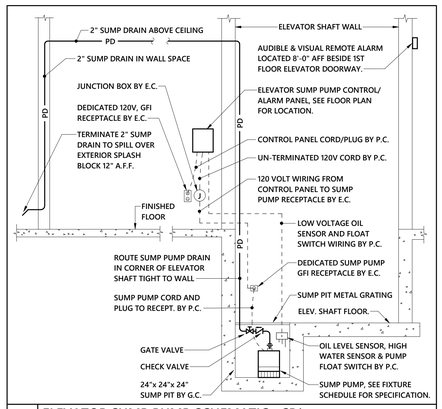
1 WATER SERVICE ENTRANCE SCHEMATIC W/BACKFLOW
NOT TO SCALE



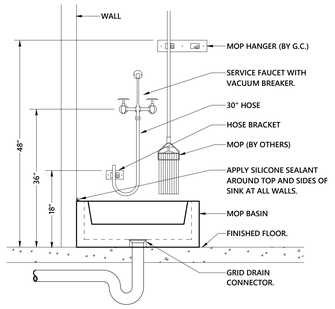
2 WATER HEATER SCHEMATIC - BUILDING HOT WATER
NO SCALE



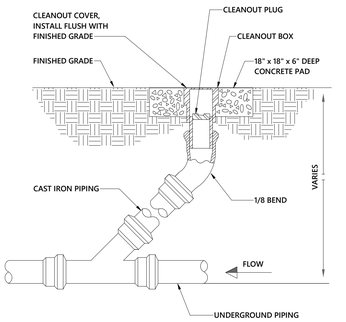
3 ELECTRIC WATER HEATER SCHEMATIC - ABOVE CEILING
NOT TO SCALE



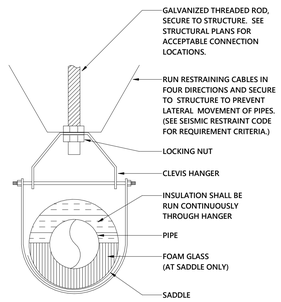
4 ELEVATOR SUMP PUMP SCHEMATIC - SP1
NOT TO SCALE



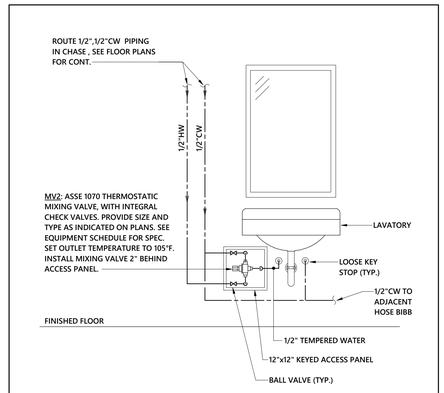
5 MOP BASIN AND ACCESSORIES
NOT TO SCALE



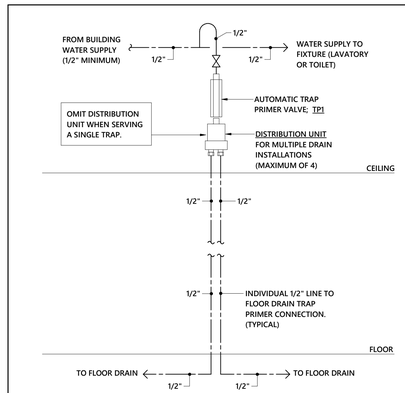
6 YARD CLEANOUT DETAIL
NOT TO SCALE



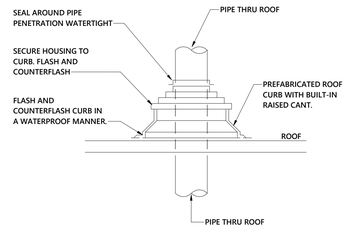
7 PIPE HANGER SCHEMATIC
NOT TO SCALE



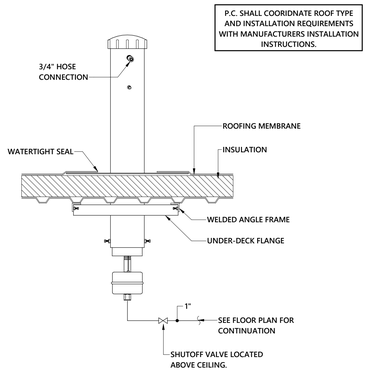
8 THERMOSTATIC MIXING VALVE SCHEMATIC - SINGLE LAV
NOT TO SCALE



9 AUTOMATIC TRAP PRIMER DETAIL - LOCATED ABOVE CEILING
NOT TO SCALE



10 PIPE PORTAL DETAIL
NOT TO SCALE



11 ROOF MOUNTED HOSE BIB
NOT TO SCALE

GENERAL NOTES

PERMIT SET

02/08/2021

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PROJECT TITLE

John Knox Village

PROJECT DESIGNER	DESIGNER
PROJECT ARCHITECT	PA
PROJECT ENGINEER	Designer
DRAWN BY	TAW
CHECKED BY	DAR
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

PLUMBING SCHEMATICS AND DETAILS

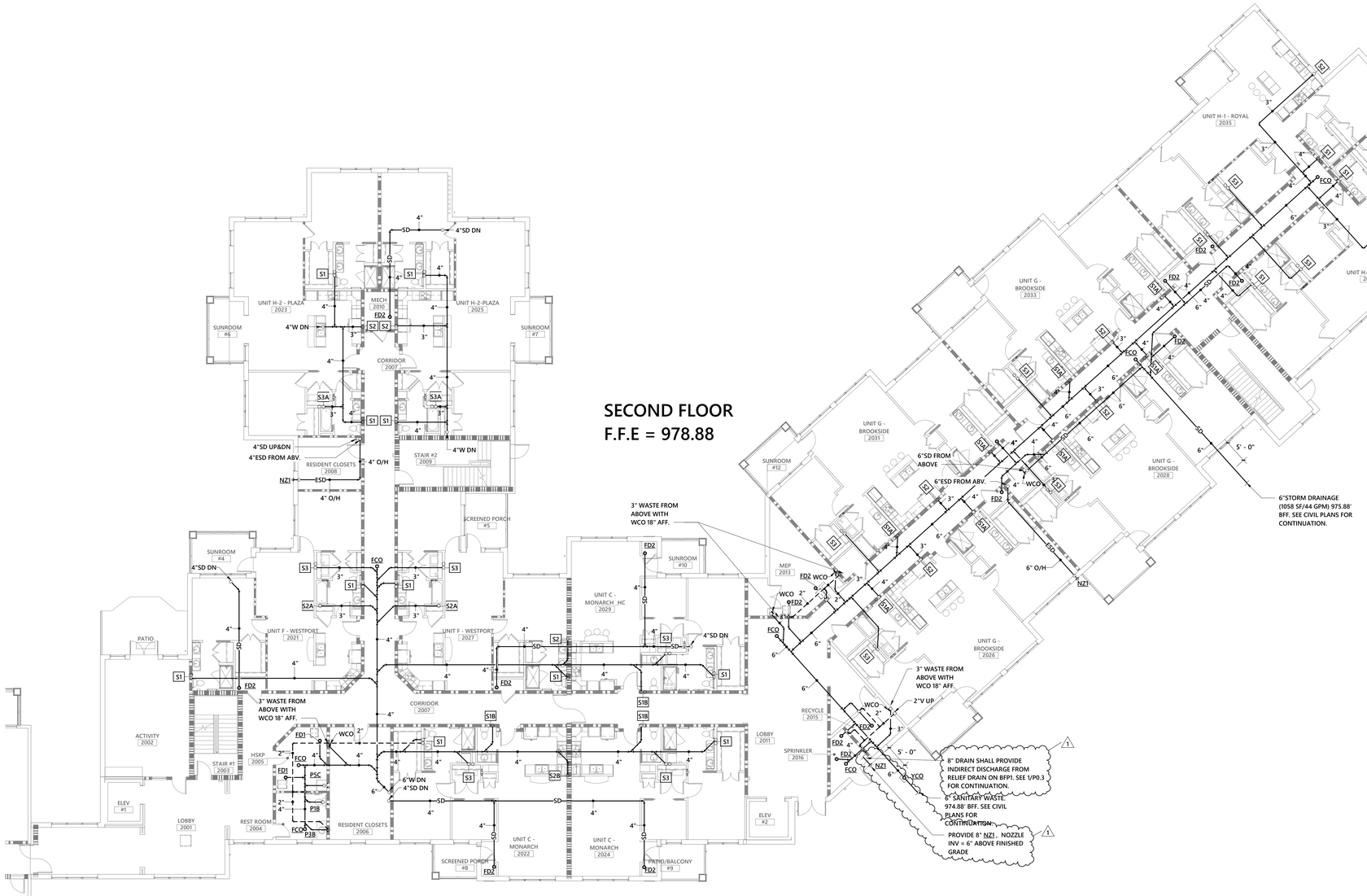
COMM. NO.	DATE
19132.00	January 18, 2021

DRAWING P0.3

SHEET 3 OF 18

GENERAL NOTES:

1. REFER TO P5 SERIES SHEETS FOR ENLARGED WASTE, VENT AND WATER SUPPLY PIPING UNIT PLANS.
2. REFER TO P6 SERIES SHEETS FOR SANITARY WASTE AND VENT RISER DIAGRAMS.



1 **SECOND FLOOR OVERALL DRAINAGE PIPING PLAN**
3/32" = 1'-0"

N
PLAN NORTH

GENERAL NOTES

PERMIT SET
NOT FOR CONSTRUCTION
BYRON D. FORD
PE-2014023016
PROFESSIONAL ENGINEER
02/08/2021

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PROJECT TITLE
John Knox Village

PROJECT DESIGNER	: DESIGNER
PROJECT ARCHITECT	: PA
PROJECT ENGINEER	: Designer
DRAWN BY	: TAW
CHECKED BY	: DAR
APPROVED BY	:

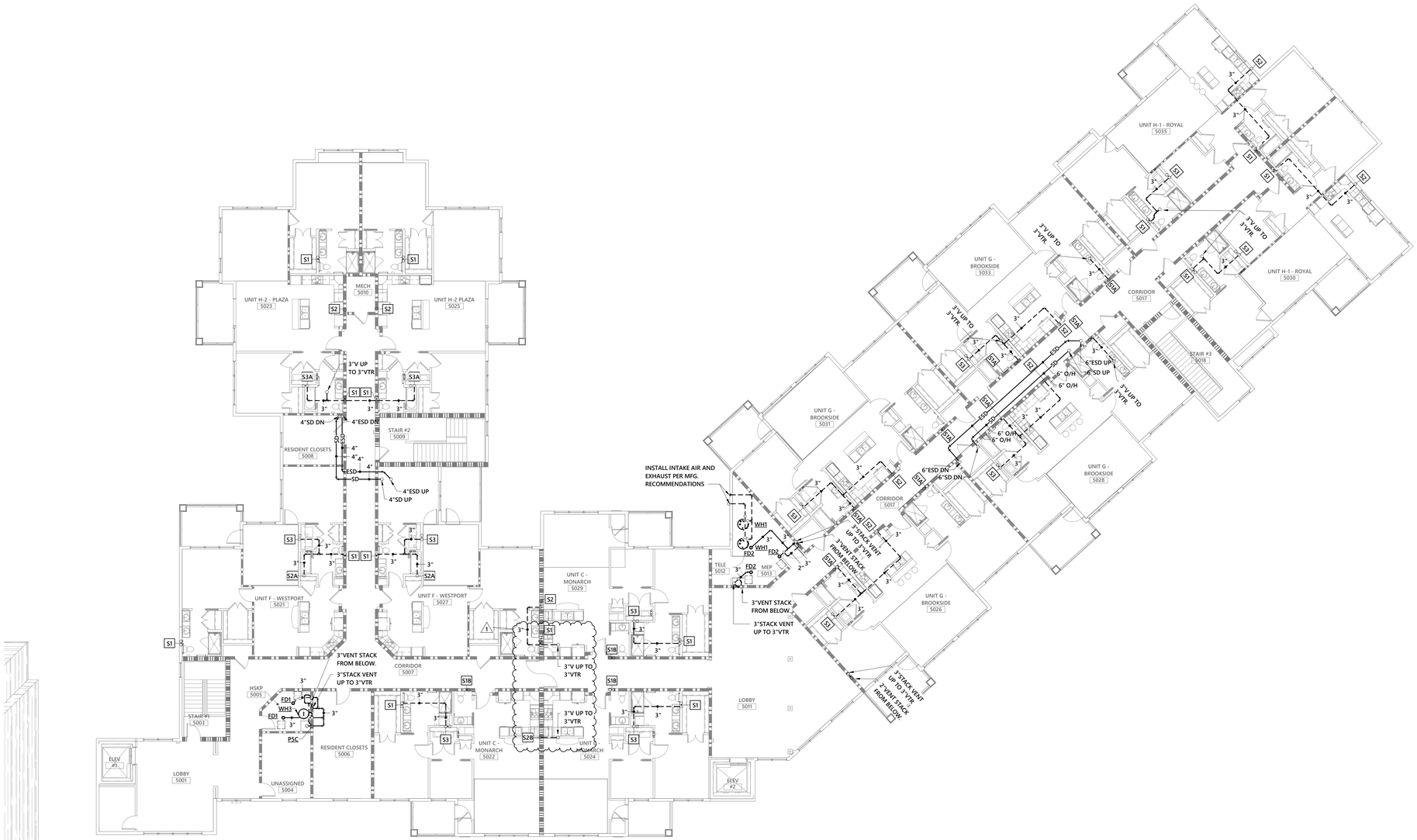
NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE
SECOND FLOOR OVERALL DRAINAGE PIPING PLAN

COMM. NO.	DATE
19132.00	January 18, 2021
DRAWING P1.2	SHEET 6 OF 18

GENERAL NOTES:

1. REFER TO P5 SERIES SHEETS FOR ENLARGED WASTE, VENT AND WATER SUPPLY PIPING UNIT PLANS.
2. REFER TO P6 SERIES SHEETS FOR SANITARY WASTE AND VENT RISER DIAGRAMS.



1 **FIFTH FLOOR OVERALL DRAINAGE PIPING PLAN**
3/32" = 1'-0"

N
PLAN NORTH

GENERAL NOTES

PERMIT SET

BYRON D. FOX NE-2014023016 REGISTERED PROFESSIONAL ENGINEER
02/08/2021

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PROJECT TITLE

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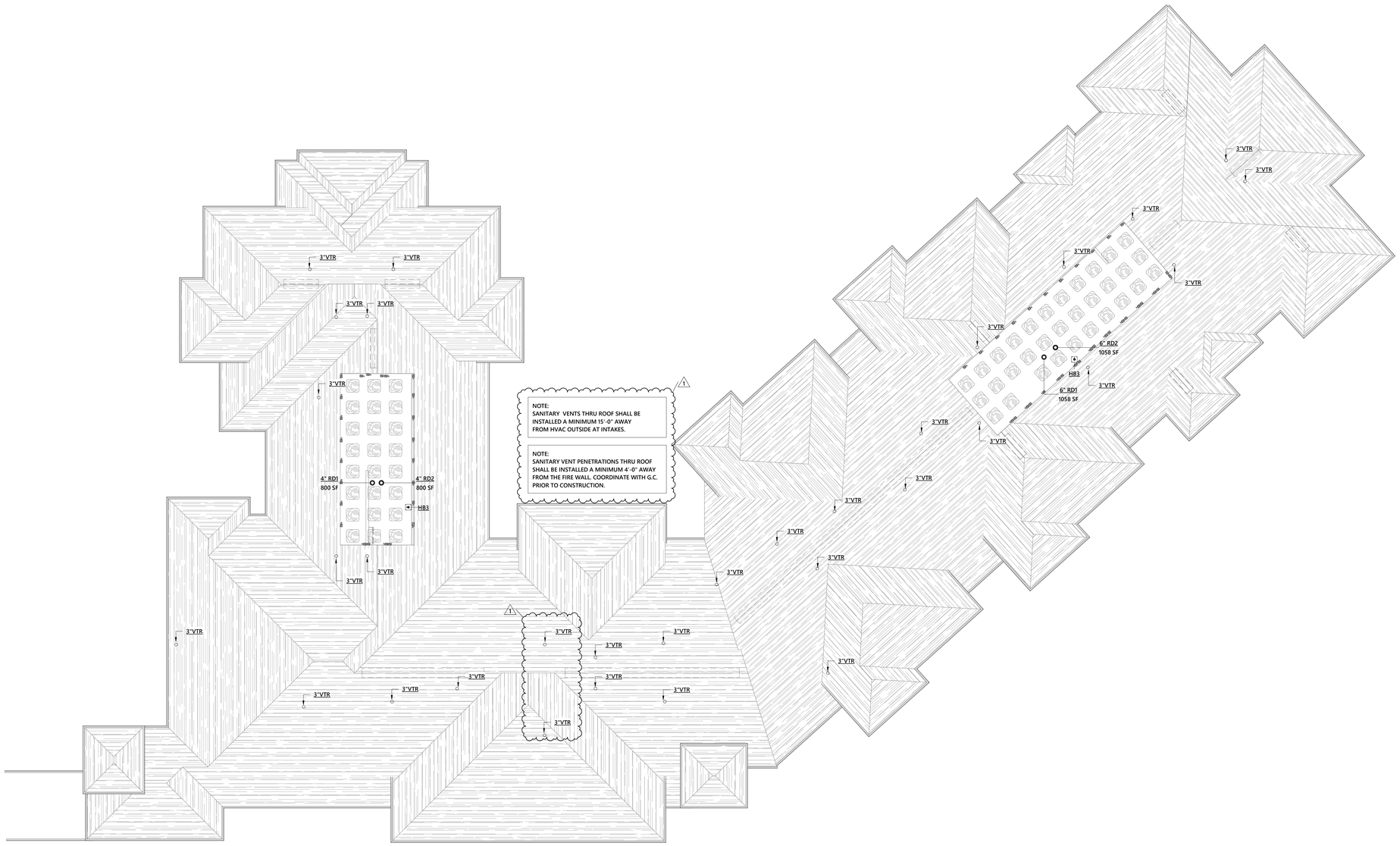
PROJECT ARCHITECT	:	PA
PROJECT ENGINEER	:	Designer
DRAWN BY	:	TAW
CHECKED BY	:	DAR
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

FIFTH FLOOR OVERALL DRAINAGE PIPING PLAN

COMM. NO. 19132.00	DATE January 18, 2021
DRAWING P1.5	SHEET 9 OF 18



1 **OVERALL ROOF PLAN**
3/32" = 1'-0"

N
PLAN NORTH

GENERAL NOTES

PERMIT SET

NORTH CAROLINA
BYRON A. WARD
E-20140CIVIL
ENGINEER
02/08/2021

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PROJECT TITLE

John Knox Village

PROJECT DESIGNER	: DESIGNER
PROJECT ARCHITECT	: PA
PROJECT ENGINEER	: Designer
DRAWN BY	: TAW
CHECKED BY	: DAR
APPROVED BY	:

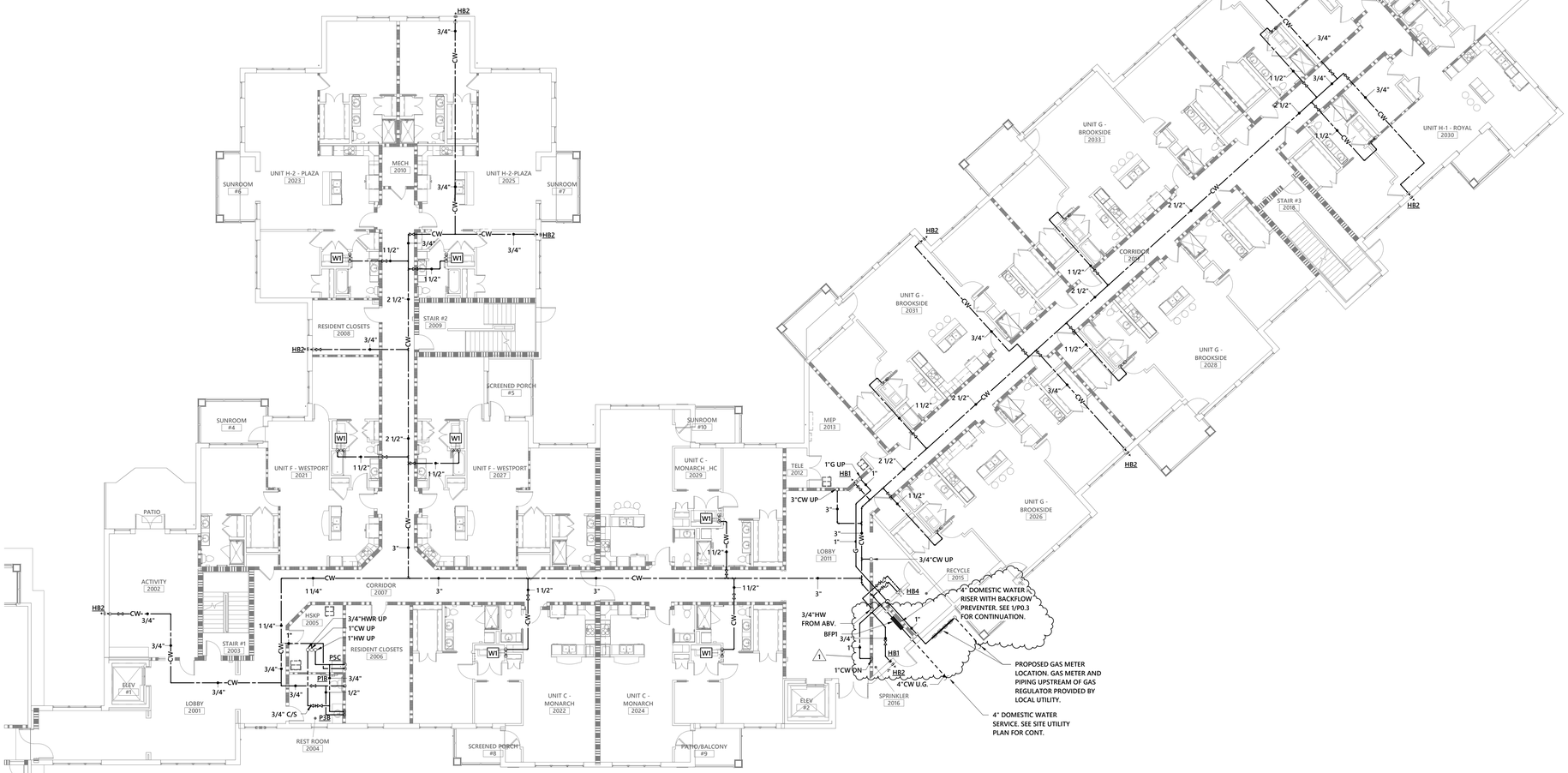
NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE
OVERALL ROOF PLAN

COMM. NO. 19132.00	DATE January 18, 2021
DRAWING P1.6	SHEET 10 OF 18

GENERAL NOTES:

1. REFER TO P5 SERIES SHEETS FOR ENLARGED WASTE, VENT AND WATER SUPPLY PIPING UNIT PLANS.
2. REFER TO P6 SERIES SHEETS FOR WATER SUPPLY RISER DIAGRAMS.



1 **SECOND FLOOR OVERALL SUPPLY PIPING PLAN**
3/32" = 1'-0"

N
PLAN NORTH

GENERAL NOTES

PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041402 BYRON A. TAW REGISTERED PROFESSIONAL ENGINEER

02/08/2021

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PROJECT TITLE

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PROJECT ARCHITECT	:	PA
PROJECT ENGINEER	:	Designer
DRAWN BY	:	TAW
CHECKED BY	:	DAR
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

SECOND FLOOR OVERALL SUPPLY PIPING PLAN

COMM. NO.	DATE
19132.00	January 18, 2021
DRAWING	SHEET
P2.2	12 OF 18

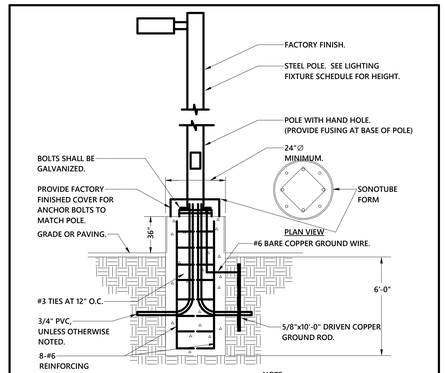
1 SITE-ELECTRICAL PLAN
1" = 20'-0"

GENERAL NOTES:

A. COORDINATE TRANSFORMER LOCATIONS WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.
B. UTILITY TRANSFORMER SHALL BE LOCATED AT LEAST 10 FT AND 20 FT AWAY FROM DOORS, WINDOWS OR AIR INTAKES.
C. UTILITY TRANSFORMER SHALL HAVE A MINIMUM CLEAR WORKING SPACE OF 10FT AT THE DOOR SIDE AND 3FT CLEARANCE AT NON-DOORSIDE OF THE TRANSFORMER.

(#) KEYED NOTES:

1. PROVIDE (2)-4" CONDUITS FROM TELECOM ROOM 2012 TO 24"x24" HANDHOLE FOR SPARE DATA/TELECOM SERVICE.



NOTE:
CONTRACTOR SHALL COORDINATE POLE BOLT TEMPLATE PRIOR TO FORMING BASE.

2 POLE BASE DETAIL
NOT TO SCALE

PERMIT SET

02/08/2021

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PROJECT TITLE

John Knox Village

PROJECT DESIGNER	:	DESIGNER
PROJECT ARCHITECT	:	PA
PROJECT ENGINEER	:	ZK
DRAWN BY	:	DG
CHECKED BY	:	ZK
APPROVED BY	:	KP

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE
ELECTRICAL SITE PLAN

COMM. NO.	DATE
19132.00	January 18, 2021

DRAWING E0.10

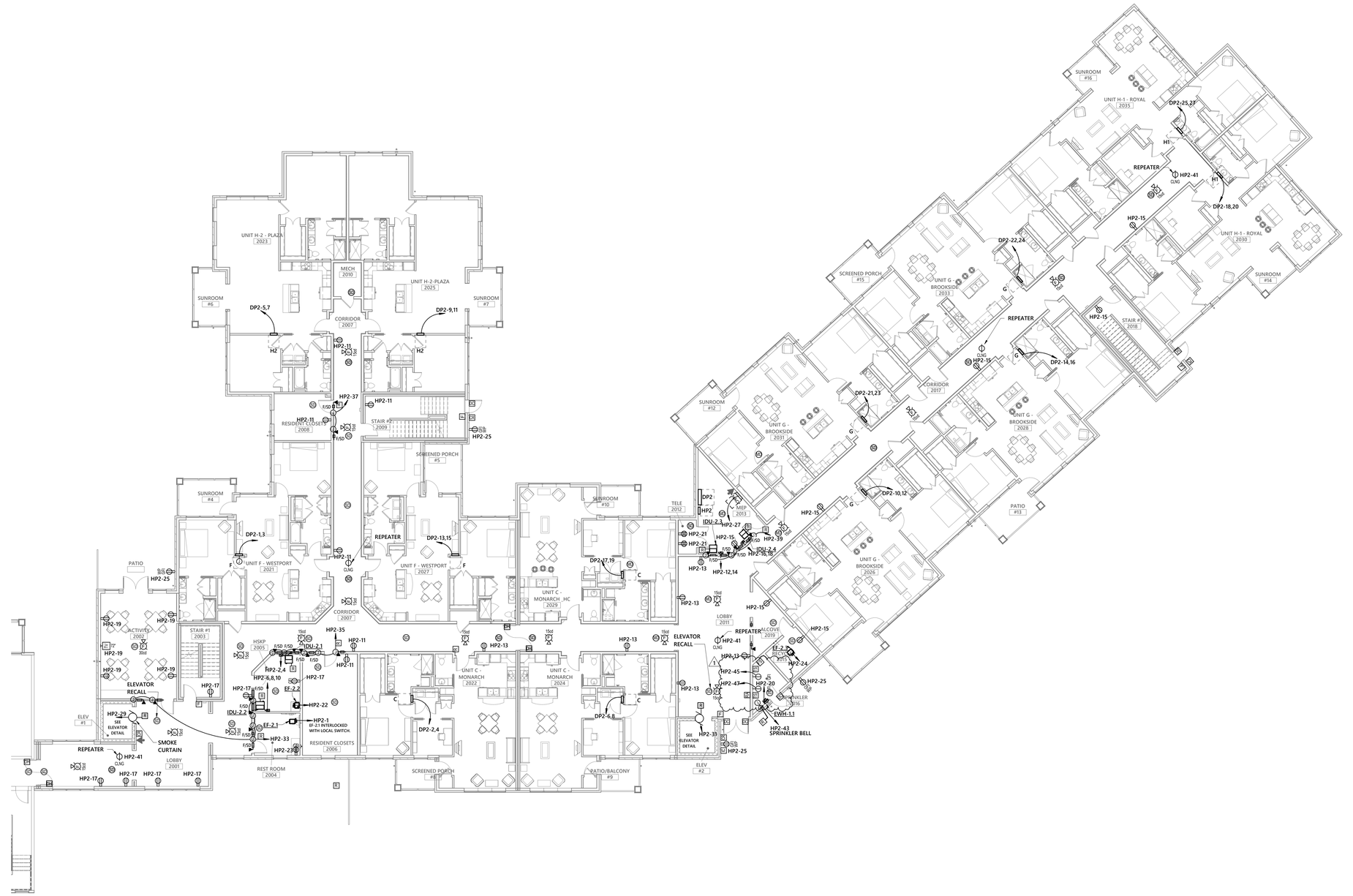
SHEET 2 OF 24

GENERAL NOTES:

A. COORDINATE LOCATION, MOUNTING HEIGHT AND TERMINATION OF MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

KEYED NOTES:

1. GARAGE DOOR. COORDINATE EXACT REQUIREMENTS OF GARAGE DOOR WITH GARAGE DOOR MANUFACTURER'S SPECIFICATION BEFORE ROUGH-IN AND INSTALLATION.



1 **OVERALL SECOND FLOOR POWER PLAN**
3/32" = 1'-0"

N
PLAN NORTH

PERMIT SET

KEITH A. PITTS E-25154 PROFESSIONAL ENGINEER

02/08/2021

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PROJECT TITLE

John Knox Village

PROJECT DESIGNER	: DESIGNER
PROJECT ARCHITECT	: PA
PROJECT ENGINEER	: ZK
DRAWN BY	: DG
CHECKED BY	: ZK
APPROVED BY	: KP

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

OVERALL SECOND FLOOR POWER PLAN

COMM. NO.	DATE
19132.00	January 18, 2021

DRAWING **E2.1**

SHEET 9 OF 24

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP	WATTAGE	VOLTAGE	MFR	CATALOG SERIES	NOTE
A1	EXISTING FIXTURE AND POLE TO BE REUSED	LED	84W	UNIV	VISIONAIRE LIGHTING	ODN-2-L-T4-80LC-3-4K	15 FOOT POLE BRONZE FINISH. E.C TO PROVIDE CONCRETE BASE TO MOUNT RELOCATED POLE.
C	6" RECESSED LED DOWNLIGHT	LED	26 W	120V	PRESCOLITE	CFT632EB - STF602LP32535K B6	6" APERATURE MINIMUM 1250 LUMEN PACKAGE MINIMUM 10% DIMMING CLEAR SPECULAR
CE	6" RECESSED LED DOWNLIGHT (EMERGENCY)	LED	26 W	120V	PRESCOLITE	CFT632EB EM - STF602LP32535K B6	6" APERATURE MINIMUM 1250 LUMEN PACKAGE MINIMUM 10% DIMMING CLEAR SPECULAR BATTERY BACK UP
DF4	24" DRUM PENDANT	LED(GU24)	60 W	120V	JUSTICE DESIGN	CLD-9542	LED BULBS OLDE BRONZE FINISH
DF7	3 LIGHT BATHROOM VANITY	LED (A19)	45 W	120V	KICHLER APPROVED EQUAL	5078OZ	OLDE BRONZE FINISH DAMP LISTED
DF10	36" DRUM PENDANT	LED (E26)	60 W	120V	JUSTICE DESIGN GROUP	CLD	LED BULBS OLDE BRONZE FINISH
EMB1	INTERIOR EMERGENCY BATTERY EGRESS LIGHT AIMABLE	LED	9 W	120V	DUAL LITE APPROVED EQUAL APPROVED EQUAL	LZ SERIES APPROVED EQUAL APPROVED EQUAL	TEST SWITCH PROVIDED SEALED 90 MINUTE BATTERY 20' (ON CENTER) X 6'W DESIGN PATH SELF TEST SDRT WITH RTKIT
EVL1	2' VAPORTITE LED (ELEVATOR PIT LIGHT)	LED	32 W	UNIV	METALUX LITHONIA APPROVED EQUAL	2VT2 SERIES VTAPPROVED EQUAL APROVED EQUAL	5000 LUMENS,W/EMERGENCY BATTERY PACK,WET LOCATION LISTED
EX1B	EXIT SIGN	LED		120V	HUBBEL LIGHTING	DUAL LITE LXURWE	90 MINUTE OPERATION;RED TEST SWITCH PROVIDED UL LISTED FOR DAMP LOCATIONS
G	VANDAL RESISTANT SURFACE MOUNTED GARAGE LED	LED	36 W	120V	WILLIAMS	VG1 L30-740 T5-SM-DBZ DIM-UNV	VANDAL RESISTANT EXTRUDED ALUMINUM HOUSING POLYCARBONATE LENS DIE-CAST END CAPS 4000k, 4300 LUMENS
OA	6" ROUND WALL MOUNTED SCONCE	LED	24 W	120V	FCC LIGHTING APPROVED EQUAL APPROVED EQUAL	FCC610W-120-LED-35K-2000-BZ-WFL-BBU	BRONZE FINISH & WET LISTED. BATTERY BACKUP
RT	2'X2' VOLUMETRIC LED TROFFER	LED	26 W	120V	COLUMBIA LIGHTING APPROVED EQUAL APPROVED EQUAL	CFP22-3340-HE	0-10V DIMMING
RTE	2'X2' VOLUMETRIC LED TROFFER (EMERGENCY)	LED	26 W	120V	COLUMBIA LIGHTING APPROVED EQUAL APPROVED EQUAL	CFP22-3340-HE- ELL14	0-10V DIMMING WITH EMERGENCY BATTERY BACK UP
S1	4 FT. LED STRIP	LED	27 W	120V	LITHONIA	CLX-48-4000LM	PROVIDE CHAIN FOR PENDANT MOUNTING PROVIDE WIRE GUARD 4000 MINIMUM LUMENS LENSED
S1E	4 FT. LED STRIP (EMERGENCY)	LED	27 W	120V	LITHONIA	CLX-48-4000LM	PROVIDE CHAIN FOR PENDANT MOUNTING PROVIDE BATTERY BACKUP PROVIDE WIRE GUARD 4000 MINIMUM LUMENS LENSED
WF1	WALL MOUNTED LED STAIRWELL LIGHT	LED	32 W	120V	LIGHTCONTROL	4L-WID-04-SOS-C1-30K-D05-1C-UNV-NL-EF-NXE-S02	90 MIN EMERGENCY BATTERY BACKUP

LIGHTING FIXTURE SCHEDULE - SUITES

TYPE	DESCRIPTION	LAMP	WATTAGE	VOLTAGE	MFR	CATALOG SERIES	NOTE
UDF1	WALL MOUNTED LED SCONCE - UNIT ENTRY CORRIDOR	LED	21 W	120V	LOCHWOOD	WS83421	BLACK FINISH
UDF2	3 LIGHT BATHROOM VANITY	LED (E26)	45 W	120V	CANARM	PALMER IVL422A03BN	BRUSHED NICKEL FINISH. DAMP LOCATION LISTED.
UDF3	UNIT ENTRY & DINING ROOM LIGHTS	LED (A19)	15 W	120V	PROGRESS LIGHTING	P3852-09	BRUSHED NICKEL FINISH DAMP LISTED
UDF4	DECORATIVE LED PENDANT	LED (A19)	15 W	120V	KICHLER	42432AP	MINI PENDANT ANTIQUE PEWTER FINISH
UDF5A	CEILING FAN WITH LIGHT	LED	80 W	120V	HARBOR BREEZE	SAILOR BAY RLG52BNK5L	52" CEILING FAN LIGHT BRUSHED NICKEL FINISH
UDF5B	CEILING FAN WITH LIGHT	LED	80 W	120V	HARBOR BREEZE	SAILOR BAY RLG52NWZ5L	52" CEILING FAN LIGHT BRONZE FINISH
UDF6	CEILING MOUNTED TRACK LIGHT	LED	21 W	120V	HAMPTON BAY	17208S4-SN	BRUSHED NICKEL LED DIMMABLE FIXED TRACK WITH STRAIGHT BAR FROSTED SQUARE GLASS
UDF7	SHOWER LIGHT	LED	17 W	120V	PRESCOLITE	LBSLEDA10L30K9 WH	WET LOCATION RATED
UDF8	WALL MOUNTED EXTERIOR LED	LED (E26)	15 W	120V	PROGRESS LIGHTING APPROVED EQUAL	P6052-20	ANTIQUE BRONZE FINISH WET LOCATION LISTED
UDF10	22" UNDERCABINET LIGHT	LED	19 W	120V	KICHLER	4U27K22WHT	22" 2700K LED CABINET LIGHT TEXTURED WHITE
UDF12	46" LAUNDRY LIGHT SURFACE MOUNTED	LED	19 W	120V	LUMAX LIGHTING	CLDLED-18L-35K-02-9-FAR	CLDLED SERIES
UDF13	CLOSET LIGHT SURFACE MOUNTED	LED	23 W	120V	COLUMBIA LIGHTING	LAW4-30LW-EDIU	DAMP LOCATION LISTED

FAN SCHEDULE

SYMBOL	SERVES	TYPE	ELECTRICAL DATA		NO. OF POLES	CONTROLS	DISCONNECT
			VOLT	PH			
EF-2.1	RESTROOM	CLG MTD	120 V	1	1	2	W/EQUIPMENT
EF-2.2	HSKP	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-2.3	TRASH	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-3.1	HSKP	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-3.2	TRASH	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-4.1	HSKP	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-5.1	HSKP	CLG MTD	120 V	1	1	6	W/EQUIPMENT
EF-A1	APARTMENT BATHROOM	CLG MTD	120 V	1	1	4	W/EQUIPMENT
F-G1	GARAGE	WALL MTD	208 V	3	3	5	W/EQUIPMENT

EXHAUST FAN SCHEDULE CONTROLS:

1. WALL MOUNTED THERMOSTAT (REVERSE ACTING, SET FOR 80°)
2. INTERLOCK WITH ROOM LIGHT SWITCH (FAN SHALL OPERATE WHEN LIGHT IS ON IF ANY ROOM IS SERVED BY FAN)
3. WALL MOUNTED ON/OFF SWITCH WITH IDENTIFICATION LABEL
4. WALL SWITCH BY E.C. (WALL SWITCH SHALL MATCH LIGHT SWITCH)
5. CONTROLLED BY VENTILATION CONTROL SYSTEM
6. CONTINUOUS OPERATION
7. CONTROLLED BY THE FACP AND FIREMAN'S MANUAL OVER-RIDE CONTROL PANEL IN FIRE COMMAND ROOM. NO MECHANICAL CONTROL POINTS REQUIRED BY M.C. FOR SMOKE CONTROL FANS

COMMON AREA INDOOR UNIT SCHEDULE

ID	ELECRICAL DATA				DISCONNECT
	MCA	MOCP	VOLTAGE	PH	
IDU-2.1	50.4	60.0	208 V	1	60A/F60/3P/NEMA1
IDU-2.2	47.7	50.0	208 V	3	60A/F50/2P/NEMA1
IDU-2.3	48.8	50.0	208 V	1	60A/F50/2P/NEMA1
IDU-2.4	44.7	45.0	208 V	1	60A/F45/2P/NEMA1
IDU-3.1	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-3.2	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-3.3	48.8	50.0	208 V	1	60A/F50/2P/NEMA1
IDU-3.4	44.7	45.0	208 V	1	60A/F45/2P/NEMA1
IDU-4.1	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-4.2	48.8	50.0	208 V	1	60A/F50/2P/NEMA1
IDU-4.3	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-4.4	44.7	45.0	208 V	1	60A/F45/2P/NEMA1
IDU-5.1	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-5.2	48.8	50.0	208 V	1	60A/F50/2P/NEMA1
IDU-5.3	50.4	60.0	208 V	1	60A/F60/2P/NEMA1
IDU-5.4	44.7	45.0	208 V	1	60A/F45/2P/NEMA1
IDU-A	50.4	60.0	208 V	1	60A/F60/2P/NEMA1

HEAT PUMP SCHEDULE

ID	ELECTRICAL DATA				DISCONNECT
	MCA	FUSE	VOLTAGE	PH	
HP-2.1	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-2.2	14.5	25.0	208 V	3	30A/F25/3P/NEMA 3R
HP-2.3	18.3	30.0	208 V	1	30A/F30/2P/NEMA 3R
HP-2.4	14.2	25.0	208 V	1	30A/F25/2P/NEMA 3R
HP-3.1	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-3.2	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-3.3	18.3	30.0	208 V	1	30A/F30/2P/NEMA 3R
HP-3.4	14.2	25.0	208 V	1	30A/F25/2P/NEMA 3R
HP-4.1	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-4.2	18.3	30.0	208 V	1	30A/F30/2P/NEMA 3R
HP-4.3	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-4.4	14.2	25.0	208 V	1	30A/F25/2P/NEMA 3R
HP-5.1	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-5.2	18.3	30.0	208 V	1	30A/F30/2P/NEMA 3R
HP-5.3	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R
HP-5.4	14.2	25.0	208 V	1	30A/F25/2P/NEMA 3R
HP-A	11.7	20.0	208 V	3	30A/F20/3P/NEMA 3R

VTAC UNIT (VERTICAL PTAC) SCHEDULE

SYMBOL	ELECTRIC HEAT KW	POWER SUPPLY				DISCONNECT
		MCA	MOCP	VOLTAGE	PH	
VTAC-A	7	35.0	40.0	208	1	60A/F40/2P/NEMA1

OUTDOOR UNIT SCHEDULE

ID	ELECTRICAL DATA				DICONNECT
	MCA	MOCP	PHASE	VOLTAGE	
ODU-0.1	12.8 A	15.0 A	1	208 V	30A/F15/2P/NEMA 3R

INDOOR UNIT SCHEDULE

ID	ELECTRICAL DATA			INTERLOCK	
	MCA	VOLTAGE	PHASE	ID	DISCONNECT
IDU-0.1	0.3 A	208 V	1	ODU-0.1	MOTORIZED SWITCH

ELECTRIC WATER HEATER SCHEDULE

SYMBOL	KW	WATT		DISCONNECT
		VOLT	PH	
WH3	4.5	208 V	1	30A/F30/2P/NEMA1

ELECTRIC WALL HEATER SCHEDULE

SYMBOL	LOCATION	WATT	ELECTRIC DATA		DISCONNECT
			VOLT	PH	
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EUH-1	GARAGE (MULTIPLE LOCATIONS)	7500.0	208 V	3	W/EQUIPMENT
EWH-0.1	GARAGE STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-0.2	GARAGE STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-0.3	GARAGE STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-0.4	GARAGE STORAGE	1500.0	120 V	1	W/EQUIPMENT
EWH-0.5	GARAGE STORAGE	1500.0	120 V	1	W/EQUIPMENT
EWH-0.6	GARAGE STORAGE	1500.0	120 V	1	W/EQUIPMENT
EWH-0.7	GARAGE STORAGE	1500.0	120 V	1	W/EQUIPMENT
EWH-0.8	VESTIBULE	1500.0	120 V	1	W/EQUIPMENT
EWH-0.9	RAMP	1500.0	120 V	1	W/EQUIPMENT
EWH-1.1	SPRINKLER	1500.0	120 V	1	W/EQUIPMENT
EWH-3.1	3RD FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-3.2	3RD FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-3.3	3RD FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-5.1	5TH FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-5.2	5TH FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT
EWH-5.3	5TH FLOOR STAIRS	1500.0	120 V	1	W/EQUIPMENT

GENERAL NOTES

PERMIT SET

STATE OF MARYLAND — KEVIN D. PETERS — PROFESSIONAL ENGINEER — E-25154

02/08/2021

optima engineering
1927 South Tryon St, Suite 300, Charlotte NC 28203
Phone: 919-926-2200 - www.optimaengineering.com

PROJECT TITLE

John Knox Village

PROJECT DESIGNER	DESIGNER
PROJECT ARCHITECT	PA
PROJECT ENGINEER	ZK
DRAWN BY	DG
CHECKED BY	ZK
APPROVED BY	KP

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

ELECTRICAL SCHEDULES

COMM. NO.	DATE
19132.00	January 18, 2021
DRAWING E8.2	SHEET 21 OF 24

SWITCHBOARD: SWBD2

VOLTAGE: 208Y/120 3Ø | **MAIN TYPE:** MCB | **MANUFACTUR...** SIEMENS
MOUNTING: FLOOR | **PHASE:** 3 | **TYPE:** SB
MAIN: 3000 A | **WIRE:** 4 | **AIC:** 65,000 KAIC

MAIN CB NOTES:

CKT/ID	LOAD SERVED	FRAME	TRIP	POLE	FEEDER	NOTES	Load
1	PANEL - DP2	800 A	800 A	3	SEE RISER DIAGRAM		508.9 kVA
2	PANEL - DP3	800 A	800 A	3	SEE RISER DIAGRAM		501.0 kVA
3	PANEL - DP4	800 A	800 A	3	SEE RISER DIAGRAM		495.8 kVA
4	PANEL - DP5	800 A	800 A	3	SEE RISER DIAGRAM		452.7 kVA
5	PANEL - HPG1	400 A	400 A	3	SEE RISER DIAGRAM		110.5 kVA
6	PANEL - HPG2	400 A	400 A	3	SEE RISER DIAGRAM		82.5 kVA
7	PANEL - HP5A & HP5B	600 A	600 A	3	SEE RISER DIAGRAM		133.9 kVA
8	PANEL - HP5C & HP5D	400 A	400 A	3	SEE RISER DIAGRAM		134.9 kVA
9	SPD	60 A	60 A	3	1" C - 4#6,1#6G		0.0 kVA
10	SPACE ONLY	--	--	--		--	0.0 kVA
11	SPACE ONLY	--	--	--		--	0.0 kVA
12	SPACE ONLY	--	--	--		--	0.0 kVA

Load Classification	Connected...	Demand...	Est. Demand	Ampacity
LIGHTS	16177 VA	125.00%	20222 VA	
LIGHTING - EXTERIOR	5216 VA	125.00%	6519 VA	
HEATING	243371 VA	100.00%	243371 VA	
COOLING	49419 VA	100.00%	49419 VA	
VENTILATION	8840 VA	100.00%	8840 VA	
MOTORS	0 VA	0.00%	0 VA	
KITCHEN	0 VA	0.00%	0 VA	
RECEPTACLES	49620 VA	60.08%	29810 VA	
WATER HEATER	6500 VA	100.00%	6500 VA	
MISC.	64600 VA	100.00%	64600 VA	
ELEVATOR	24000 VA	100.00%	24000 VA	
Spare	0 VA	0.00%	0 VA	
APARTMENT LOADS	1945480 VA	23.00%	447460 VA	1350.1 A
			62 and Over	Unit Load Center Quantity to Obtain Demand Factor (Automatic Calc)

TOTAL KVA (CONNECTED):	2420.2 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	907.7 kVA	7063.0 A	7063.4 A	6257.0 A
TOTAL AMP....	6717.9 A			
TOTAL AMP. (DEMAND):	2519.6 A			
Number Unit Load Centers	52	DEMAND...	APARTMENT kVA	APARTMENT...
Apartment kVA...	1945480 VA	0.25	486370 VA	1350.1 A

NOTES:
1. ALL BREAKER SHALL BE AS REQUIRED PER PANEL AIC RATINGS.
2. PANEL SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
3. ALL BUSSING, INCL GND AND NEUTRAL SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. UL. SERVICE ENTRANCE RATED.
6. PROVIDE LSI TRIP FUNCTIONS ON MAIN.
7. PROVIDE ARC FAULT MITIGATION ON MAIN.

PANEL: DP2

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P5
MAIN 800 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
AP A...	UNIT F - 2021	1	125 A	1	2	17.40 16.93			2	2	125 A	1	UNIT C - 2022	AP A...
				3			17.40 16.93			4				
AP A...	UNIT H2 - 2023	1	125 A	5	2			17.70 16.93	2	6	125 A	1	UNIT C - 2024	AP A...
				7		17.70 16.93				8				
AP A...	UNIT H2 - 2025	1	125 A	9	2		17.70 17.50		2	10	125 A	1	UNIT G - 2026	AP A...
				11				17.70 17.50		12				
AP A...	UNIT F - 2027	1	125 A	13	2	17.40 17.50			2	14	125 A	1	UNIT G - 2028	AP A...
				15			17.40 17.50			16				
AP A...	UNIT C-ADA - 2029	1	125 A	17	2			16.93 17.70	2	18	125 A	1	UNIT H1 - 2030	AP A...
				19		16.93 17.70				20				
AP A...	UNIT G - 2031	1	125 A	21	2		17.50 17.50		2	22	125 A	1	UNIT G - 2033	AP A...
				23				17.50 17.50		24				
AP A...	UNIT H1 - 2035	1	125 A	25	2	17.70 19.87			3	26	200 A	3/0	PANEL - HP2	Other; R...
				27			17.70 17.65			28				
--	SPACE ONLY	--	--	29	--			0.00 18.71		30				

	LOAD	Connected...	Demand Factor	Est. Demand	Ampacity
L	LIGHTS	2231 VA	125.00%	2789 VA	
LE	LIGHTING - EXTERIOR	1211 VA	125.00%	1514 VA	
H	HEATING	39176 VA	100.00%	39176 VA	
C	COOLING	0 VA	0.00%	0 VA	
V	VENTILATION	54 VA	100.00%	54 VA	
M	MOTORS	0 VA	0.00%	0 VA	
K	KITCHEN	0 VA	0.00%	0 VA	
R	RECEPTACLES	8060 VA	100.00%	8060 VA	
WH	WATER HEATER	0 VA	0.00%	0 VA	
MS	MISC.	3800 VA	100.00%	3800 VA	
S	Spare	0 VA	0.00%	0 VA	
E	ELEVATOR	0 VA	0.00%	0 VA	
LD	LAUNDRY	0 VA	0.00%	0 VA	
AP	APARTMENT LOADS	452650 VA	41.00%	185587 VA	515.1 A
					12 - 13

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.

Unit Load Center Quantity to Obtain Demand Factor (Automatic Calc)

TOTAL KVA (CONNECTED):	508.88 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	242.68 kVA	1488.1 A	1477.4 A	1317.7 A
TOTAL AMP....	1413 A			
TOTAL AMP. (DEMAND):	674 A			
Number Unit Load Centers	13	DEMAND...	APARTMENT kVA	APARTMENT...
Apartment kVA...	452650 VA	0.41	185587 VA	515.1 A

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)

F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: DP3

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P5
MAIN 800 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
AP A...	UNIT F - 3021	1	125 A	1	2	17.40 16.93			2	2	125 A	1	UNIT C - 3022	AP A...
				3			17.40 16.93			4				
AP A...	UNIT H2 - 3023	1	125 A	5	2			17.70 16.93	2	6	125 A	1	UNIT C - 3024	AP A...
				7		17.70 16.93				8				
AP A...	UNIT H2 - 3025	1	125 A	9	2		17.70 17.50		2	10	125 A	1	UNIT G - 3026	AP A...
				11				17.70 17.50		12				
AP A...	UNIT F - 3027	1	125 A	13	2	17.40 17.50			2	14	125 A	1	UNIT G - 3028	AP A...
				15			17.40 17.50			16				
AP A...	UNIT C - 3029	1	125 A	17	2			16.93 17.70	2	18	125 A	1	UNIT H1 - 3030	AP A...
				19		16.93 17.70				20				
AP A...	UNIT G - 3031	1	125 A	21	2		17.50 17.50		2	22	125 A	1	UNIT G - 3033	AP A...
				23				17.50 17.50		24				
AP A...	UNIT H1 - 3035	1	125 A	25	2	17.70 17.55			3	26	200 A	3/0	PANEL-HP3	Other; R...
				27			17.70 15.70			28				
--	SPACE ONLY	--	--	29	--			0.00 15.10		30				

	LOAD	Connected...	Demand Factor	Est. Demand	Ampacity
L	LIGHTS	1922 VA	125.00%	2403 VA	
LE	LIGHTING - EXTERIOR	1107 VA	125.00%	1383 VA	
H	HEATING	36832 VA	100.00%	36832 VA	
C	COOLING	0 VA	0.00%	0 VA	
V	VENTILATION	36 VA	100.00%	36 VA	
M	MOTORS	0 VA	0.00%	0 VA	
K	KITCHEN	0 VA	0.00%	0 VA	
R	RECEPTACLES	5960 VA	100.00%	5960 VA	
WH	WATER HEATER	1000 VA	100.00%	1000 VA	
MS	MISC.	0 VA	0.00%	0 VA	
S	Spare	0 VA	0.00%	0 VA	
E	ELEVATOR	0 VA	0.00%	0 VA	
LD	LAUNDRY	0 VA	0.00%	0 VA	
AP	APARTMENT LOADS	452650 VA	41.00%	185587 VA	515.1 A
					12 - 13

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.

Unit Load Center Quantity to Obtain Demand Factor (Automatic Calc)

TOTAL KVA (CONNECTED):	501.01 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	234.70 kVA	1470.9 A	1463.3 A	1287.7 A
TOTAL AMP....	1391 A			
TOTAL AMP. (DEMAND):	651 A			
Number Unit Load Centers	13	DEMAND...	APARTMENT kVA	APARTMENT...
Apartment kVA...	452650 VA	0.41	185587 VA	515.1 A

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)

F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HPG1

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 400 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
LI...	LTS - STAIR 1	12	20 A	1	1	0.33 1.10			2	2	20 A	12	ODU-0.1	HE A...
LI...	LTS - STAIR 2	12	20 A	3	1		0.33 1.10			4				
LI...	LTS - STAIR 3	12	20 A	5	1			0.33 0.20	1	6	20 A	12	MOTORIZED DAMPER	M...
LI...	LTS - GARAGE	12	20 A	7	1	1.17 0.36			1	8	20 A	12	REC - GARAGE	R...
LI...	LTS - GARAGE	12	20 A	9	1		1.12 5.20		2	10	80 A	3	EV CHARGER	MISC.
LI...	LTS - GARAGE	12	20 A	11	1			1.11 5.20		12				
LI...	LTS - GARAGE	12	20 A	13	1	1.22 5.20			2	14	80 A	3	EV CHARGER	MISC.
LI...	LTS - EXTERIOR	12	20 A	15	1		0.20 5.20			16				
R...	REC - 1002,1003,1007	12	20 A	17	1			1.26 5.20	2	18	80 A	3	EV CHARGER	MISC.
R...	REC - 1004	12	20 A	19	1	1.26 5.20				20				
R...	REC -ELEC, BAS1	12	20 A	21	1		0.36 5.20		2	22	80 A	3	EV CHARGER	MISC.
R...	REC -1018	12	20 A	23	1			0.54 5.20		24				
R...	REC - GARAGE	10	20 A	25	1	1.44 5.20			2	26	80 A	3	EV CHARGER	MISC.
R...	REC - GARAGE	12	20 A	27	1		1.44 5.20			28				
R...	REC - EXTERIOR	12	20 A	29	1			0.18 2.91		30				VENTI L...
H...	EWH-0.1	12	20 A	31	1	1.50 2.91			3	32	35 A	8	F-G1	
H...	EWH-0.2	12	20 A	33	1		1.50 2.91			34				
H...	EWH-0.3	12	20 A	35	1			1.50 2.00		36				RECEP...
H...	EWH-0.4	12	20 A	37	1	1.50 2.00			3	38	30 A	10	GARAGE DOOR	
H...	EWH-0.5	12	20 A	39	1		1.50 2.00			40				
H...	EWH-0.6	12	20 A	41	1			1.50 2.00		42				RECEP...
H...	EWH-0.7	12	20 A	43	1	1.50 2.00			3	44	30 A	10	GARAGE DOOR	
H...	EWH-0.8	12	20 A	45	1		1.50 2.00			46				
H...	EWH-0.9	12	20 A	47	1			1.50 0.00	1	48	20 A	--	SPARE	--
OT...	MOTORIZED DOOR	12	20 A	49	1	0.50 0.00			1	50	20 A	12	WAGE - GARAGE (NOTE 5)	MISC.
OT...	MOTORIZED DOOR	12	20 A	51	1		0.50 0.47		2	52	20 A	12	SITE LIGHTS	LIGHTI...
M...	ELEV #1 SMOKE CURTAIN	12	20 A	53	1			0.20 0.47		54				
M...	ELEV #2 SMOKE CURTAIN	12	20 A	55	1	0.20 0.72			1	56	20 A	12	REC - GARAGE	R...
R...	REPEATER	12	20 A	57	1		0.60 0.00		1	58	20 A	--	SPARE	--
R...	REC - GARAGE	12	20 A	59	1			0.72 0.00	1	60	20 A	--	SPARE	--
M...	ELEV #1 SUMP PUMP	12	20 A	61	1	1.20 1.20			1	62	20 A	12	ELEV #2 SUMP PUMP	M...
M...	SUMP PUMP CONTROL - ELEV #1	12	20 A	63	1		0.50 0.50		1	64	20 A	12	SUMP PUMP CONTROL - ELEV #2	M...
R...	REC - ELEV #1 PIT	12	20 A	65	1			0.18 0.18	1	66	20 A	12	REC - ELEV #2 PIT	R...
LI...	LTS - ELEV #1 PIT	12	20 A	67	1	0.08 0.08			1	68	20 A	12	LTS - ELEV #2 PIT	LI...
M...	ELEV #1 LOBBY COMM SYSTEM	12	20 A	69	1		0.50 0.50		1	70	20 A	12	ELEV #2 LOBBY COMM SYSTEM	M...
--	SPARE	--	20 A	71	1			0.00 0.00	1	72	20 A	--	SPARE	--
--	SPARE	--	20 A	73	1	0.00 0.00			1	74	20 A	--	SPARE	--
--	SPARE	--	20 A	75	1		0.00 0.00		1	76	20 A	--	SPARE	--
--	SPARE	--	20 A	77	1			0.00 0.00	1	78	20 A	--	SPARE	--
--	SPARE	--	20 A	79	1	0.00 0.00			1	80	20 A	--	SPARE	--
--	SPARE	--	20 A	81	1		0.00 0.00		1	82	20 A	--	SPARE	--
--	SPARE	--	20 A	83	1			0.00 0.00	1	84	20 A	--	SPARE	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	6399 VA	125.00%	7998 VA
LE	LIGHTING - EXTERIOR	493 VA	125.00%	617 VA
H	HEATING	15700 VA	100.00%	15700 VA
C	COOLING	0 VA	0.00%	0 VA
V	VENTILATION	8718 VA	100.00%	8718 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	21240 VA	73.54%	15620 VA
WH	WATER HEATER	0 VA	0.00%	0 VA
MS	MISC.	57000 VA	100.00%	57000 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. RED LOCK-ON ATTACHMENT.

TOTAL KVA (CONNECTED):	110.55...	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	106.65...	322.5 A	343.0 A	269.8 A
TOTAL AMP. (CONNECTED):	307 A			
TOTAL AMP. (DEMAND):	296 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)

F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: DP4

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P5
MAIN 800 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
AP A...	UNIT F - 4021	1	125 A	1	2	17.40 16.93			2	2	125 A	1	UNIT C - 4022	AP A...
				3			17.40 16.93			4				
AP A...	UNIT H2 - 4023	1	125 A	5	2			17.70 16.93	2	6	125 A	1	UNIT C - 4024	AP A...
				7		17.70 16.93				8				
AP A...	UNIT H2 - 4025	1	125 A	9	2		17.70 17.50		2	10	125 A	1	UNIT G - 4026	AP A...
				11				17.70 17.50		12				
AP A...	UNIT F - 4027	1	125 A	13	2	17.40 17.50			2	14	125 A	1	UNIT G - 4028	AP A...
				15			17.40 17.50			16				
AP A...	UNIT C - 4029	1	125 A	17	2			16.93 17.70	2	18	125 A	1	UNIT H1 - 4030	AP A...
				19		16.93 17.70				20				
AP A...	UNIT G - 4031	1	125 A	21	2		17.50 17.50		2	22	125 A	1	UNIT G - 4033	AP A...
				23				17.50 17.50		24				
AP A...	UNIT H1 - 4035	1	125 A	25	2	17.70 14.62			3	26	200 A	3/0	PANEL-HP4	Other; R...
				27			17.70 13.73			28				
--	SPACE ONLY	--	--	29	--			0.00 14.83		30				

	LOAD	Connected...	Demand Factor	Est. Demand	Ampacity
L	LIGHTS	1809 VA	125.00%	2261 VA	
LE	LIGHTING - EXTERIOR	1202 VA	125.00%	1503 VA	
H	HEATING	32332 VA	100.00%	32332 VA	
C	COOLING	0 VA	0.00%	0 VA	
V	VENTILATION	18 VA	100.00%	18 VA	
M	MOTORS	0 VA	0.00%	0 VA	
K	KITCHEN	0 VA	0.00%	0 VA	
R	RECEPTACLES	6420 VA	100.00%	6420 VA	
WH	WATER HEATER	0 VA	0.00%	0 VA	
MS	MISC.	0 VA	0.00%	0 VA	
S	Spare	0 VA	0.00%	0 VA	
E	ELEVATOR	0 VA	0.00%	0 VA	
LD	LAUNDRY	0 VA	0.00%	0 VA	
AP	APARTMENT LOADS	452650 VA	41.00%	185587 VA	515.1 A
					12 - 13

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.

Unit Load Center Quantity to Obtain Demand Factor (Automatic Calc)

TOTAL KVA (CONNECTED):	495.83 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	229.52 kVA	1444.2 A	1444.7 A	1285.4 A
TOTAL AMP....	1376 A			
TOTAL AMP. (DEMAND):	637 A			
Number Unit Load Centers	13	DEMAND...	APARTMENT kVA	APARTMENT...
Apartment kVA...	452650 VA	0.41	185587 VA	515.1 A

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)

F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: DP5

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P5
MAIN 800 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
AP A...	UNIT F - 5021	1	125 A	1	2	17.40 16.93			2	2	125 A	1	UNIT C - 5022	AP A...
				3			17.40 16.93			4				
AP A...	UNIT H2 - 5023	1	125 A	5	2			17.70 16.93	2	6	125 A	1	UNIT C - 5024	AP A...
				7		17.70 16.93				8				
AP A...	UNIT H2 - 5025	1	125 A	9	2		17.70 17.50		2	10	125 A	1	UNIT G - 5026	AP A...
				11				17.70 17.50		12				
AP A...	UNIT F - 5027	1	125 A	13	2	17.40 17.50			2	14	125 A	1	UNIT G - 5028	AP A...
				15			17.40 17.50			16				
AP A...	UNIT C - 5029	1	125 A	17	2			16.93 17.70	2	18	125 A	1	UNIT H1 - 5030	AP A...
				19		16.93 17.70				20				
AP A...	UNIT G - 5031	1	125 A	21	2		17.50 17.50		2	22	125 A	1	UNIT G - 5033	AP A...
				23				17.50 17.50		24				
AP A...	UNIT H1 - 5035	1	125 A	25	2	17.70 0.00			1	26	20 A	--	SPARE	--
				27			17.70 0.00		1	28	20 A	--	SPARE	--
--	SPACE ONLY	--	--	29	--			0.00 0.00	1	30	20 A	--	SPARE	--

	LOAD	Connected...	Demand Factor	Est. Demand	Ampacity
L	LIGHTS	0 VA	0.00%	0 VA	
LE	LIGHTING - EXTERIOR	0 VA	0.00%	0 VA	
H	HEATING	0 VA	0.00%	0 VA	
C	COOLING	0 VA	0.00%	0 VA	
V	VENTILATION	0 VA	0.00%	0 VA	
M	MOTORS	0 VA	0.00%	0 VA	
K	KITCHEN	0 VA	0.00%	0 VA	
R	RECEPTACLES	0 VA	0.00%	0 VA	
WH	WATER HEATER	0 VA	0.00%	0 VA	
MS	MISC.	0 VA	0.00%	0 VA	
S	Spare	0 VA	0.00%	0 VA	
E	ELEVATOR	0 VA	0.00%	0 VA	
LD	LAUNDRY	0 VA	0.00%	0 VA	
AP	APARTMENT LOADS	452650 VA	41.00%	185587 VA	515.1 A
					12 - 13

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.

Unit Load Center Quantity to Obtain Demand Factor (Automatic Calc)

TOTAL KVA (CONNECTED):	452.65 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	185.59 kVA	1322.7 A	1330.5 A	1161.8 A
TOTAL AMP....	1256 A			
TOTAL AMP. (DEMAND):	515 A			
Number Unit Load Centers	13	DEMAND...	APARTMENT kVA	APARTMENT...
Apartment kVA...	452650 VA	0.41	185587 VA	515.1 A

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)

F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI — KEVIN PERRY ZAK — NUMBER E-29154 — PROFESSIONAL ENGINEER

02/08/2021

optima engineering
1927 South Tryon St, Suite 300, Charlotte NC 28203
Phone: 919-926-2200 - www.optimaengineering.com

PROJECT TITLE

John Knox Village

PROJECT DESIGNER	: DESIGNER
PROJECT ARCHITECT	: PA
PROJECT ENGINEER	: ZK
DRAWN BY	: DG
CHECKED BY	: ZK
APPROVED BY	: KP

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE

PANEL SCHEDULES

COMM. NO. 19132.00	DATE January 18, 2021
DRAWING E8.3	SHEET 22 OF 24

PANEL: HPG2

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 400 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
HE ATING	EUH-1	10	30 A	1	3	2.50 2.50			3	2	30 A	10	EUH-1	HE ATING
				3			2.50 2.50			4				
				5				2.50 2.50		6				
HE ATING	EUH-1	10	30 A	7	3	2.50 2.50			3	8	30 A	10	EUH-1	HE ATING
				9			2.50 2.50			10				
				11				2.50 2.50		12				
HE ATING	EUH-1	10	30 A	13	3	2.50 2.50			3	14	30 A	10	EUH-1	HE ATING
				15			2.50 2.50			16				
				17				2.50 2.50		18				
HE ATING	EUH-1	10	30 A	19	3	2.50 2.50			3	20	30 A	10	EUH-1	HE ATING
				21			2.50 2.50			22				
				23				2.50 2.50		24				
HE ATING	EUH-1	10	30 A	25	3	2.50 0.00			1	26	20 A	--	SPARE	--
				27			2.50 0.00		1	28	20 A	--	SPARE	--
				29				2.50 0.00	1	30	20 A	--	SPARE	--
HE ATING	EUH-1	10	30 A	31	3	2.50 0.00			1	32	20 A	--	SPARE	--
				33			2.50 0.00		1	34	20 A	--	SPARE	--
				35				2.50 0.00	1	36	20 A	--	SPARE	--
HE ATING	EUH-1	10	30 A	37	3	2.50 0.00			1	38	20 A	--	SPARE	--
				39			2.50 0.00		1	40	20 A	--	SPARE	--
				41				2.50 0.00	1	42	20 A	--	SPARE	--
--	SPARE	--	20 A	43	1	0.00 0.00			1	44	20 A	--	SPARE	--
--	SPARE	--	20 A	45	1		0.00 0.00		1	46	20 A	--	SPARE	--
--	SPARE	--	20 A	47	1			0.00 0.00	1	48	20 A	--	SPARE	--
--	SPARE	--	20 A	49	1	0.00 0.00			1	50	20 A	--	SPARE	--
--	SPARE	--	20 A	51	1		0.00 0.00		1	52	20 A	--	SPARE	--
--	SPARE	--	20 A	53	1			0.00 0.00	1	54	20 A	--	SPARE	--
--	SPARE	--	20 A	55	1	0.00 0.00			1	56	20 A	--	SPARE	--
--	SPARE	--	20 A	57	1		0.00 0.00		1	58	20 A	--	SPARE	--
--	SPARE	--	20 A	59	1			0.00 0.00	1	60	20 A	--	SPARE	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	0 VA	0.00%	0 VA
LE	LIGHTING - EXTERIOR	0 VA	0.00%	0 VA
H	HEATING	82500 VA	100.00%	82500 VA
C	COOLING	0 VA	0.00%	0 VA
V	VENTILATION	0 VA	0.00%	0 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	0 VA	0.00%	0 VA
WH	WATER HEATER	0 VA	0.00%	0 VA
MS	MISC.	0 VA	0.00%	0 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.

TOTAL KVA (CONNECTED):	82.50 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	82.50 kVA	229.2 A	229.2 A	229.2 A
TOTAL AMP. (CONNECTED):	229 A			
TOTAL AMP. (DEMAND):	229 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)
F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HP4

VOLTAGE: 208Y/120 3Ø | **FED FROM:** DP4
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 250 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
LI...	LTS - LEVEL 4	12	20 A	1	1	0.64 4.19			2	2	60 A	4	IDU-4.1	HE A...
LI...	LTS - LEVEL 4	12	20 A	3	1		0.93 4.19			4				
OL...	LTS - LEVEL 4	12	20 A	5	1			1.43 2.71		6				
R...	REC - LEVEL 4	12	20 A	7	1	1.26 2.71			3	8	50 A	6	IDU-4.2	HE ATING
R...	REC - LEVEL 4	12	20 A	9	1		1.08 2.71			10				
R...	REC - LEVEL 4	12	20 A	11	1			1.26 4.19		12				
R...	REC - LEVEL 4	12	20 A	13	1	0.90 4.19			2	14	45 A	6	IDU-4.3	HE A...
R...	REC - HSKP 4005	12	20 A	15	1		0.18 3.72			16				
R...	REC - TELE 4012	12	20 A	17	1			0.72 3.72		18				
M...	NACP - LEVEL 4 (NOTE 5)	12	20 A	19	1	0.00 0.02			1	20	20 A	12	EF-4.1	V...
R...	REC - 4004	12	20 A	21	1		0.72 0.00		--	22	--	--	SPACE ONLY	--
OI...	FIRE SMOKE DAMPER	12	20 A	23	1			0.40 0.00	--	24	--	--	SPACE ONLY	--
OI...	FIRE SMOKE DAMPER	12	20 A	25	1	0.40 0.00			--	26	--	--	SPACE ONLY	--
OI...	FIRE SMOKE DAMPER	12	20 A	27	1		0.20 0.00		--	28	--	--	SPACE ONLY	--
OI...	FIRE SMOKE DAMPER	12	20 A	29	1			0.40 0.00	--	30	--	--	SPACE ONLY	--
R...	REPEATER	12	20 A	31	1	0.30 0.00			--	32	--	--	SPACE ONLY	--
--	SPARE	--	20 A	33	1		0.00 0.00		--	34	--	--	SPACE ONLY	--
--	SPARE	--	20 A	35	1			0.00 0.00	--	36	--	--	SPACE ONLY	--
--	SPARE	--	20 A	37	1	0.00 0.00			--	38	--	--	SPACE ONLY	--
--	SPARE	--	20 A	39	1		0.00 0.00		--	40	--	--	SPACE ONLY	--
--	SPARE	--	20 A	41	1			0.00 0.00	--	42	--	--	SPACE ONLY	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	1809 VA	125.00%	2261 VA
LE	LIGHTING - EXTERIOR	1202 VA	125.00%	1503 VA
H	HEATING	32332 VA	100.00%	32332 VA
C	COOLING	0 VA	0.00%	0 VA
V	VENTILATION	18 VA	100.00%	18 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	6420 VA	100.00%	6420 VA
WH	WATER HEATER	0 VA	0.00%	0 VA
MI	MISC.	0 VA	0.00%	0 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. RED LOCK-ON ATTACHMENT.

TOTAL KVA (CONNECTED):	43.18 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	43.93 kVA	122.9 A	114.4 A	124.7 A
TOTAL AMP. (CONNECTED):	120 A			
TOTAL AMP. (DEMAND):	122 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)
F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HP2

VOLTAGE: 208Y/120 3Ø | **FED FROM:** DP2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 250 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
O...	LTS - LEVEL 2	10	20 A	1	1	1.73 4.19			2	2	60 A	4	IDU-2.1	HE A...
LI...	LTS - LEVEL 2	10	20 A	3	1		0.66 4.19			4				
LI...	LTS - LEVEL 2	10	20 A	5	1			0.93 4.58		6				
LI...	LTS - EXTERIOR	10	20 A	7	1	0.13 4.58			3	8	50 A	6	IDU-2.2	HE ATING
--	SPARE	--	20 A	9	1		0.00 4.58			10				
R...	REC - LEVEL 2	12	20 A	11	1			1.26 4.06		12				
R...	REC - LEVEL 2	12	20 A	13	1	1.26 4.06			2	14	50 A	6	IDU-2.3	HE A...
R...	REC - LEVEL 2	12	20 A	15	1		1.26 3.72			16				
R...	REC - LEVEL 2	12	20 A	17	1			1.26 3.72		18				
R...	REC - LEVEL 2	12	20 A	19	1	0.72 1.50			1	20	20 A	12	EWH-1.1	H...
R...	REC - TELE 2012	12	20 A	21	1		0.72 0.02		1	22	20 A	12	EF-2.2	V...
R...	REC - RESTROOM 2004	12	20 A	23	1			0.18 0.02	1	24	20 A	12	EF-2.3	V...
R...	REC - EXTERIOR	10	20 A	25	1	0.90 0.00			1	26	20 A	--	SPARE	--
M...	NACP - LEVEL 2 (NOTE 5)	12	20 A	27	1		0.00 0.00		--	28	--	--	SPACE ONLY	--
M...	ELEV #1 SMOKE CURTAIN	12	20 A	29	1			0.40 0.00	--	30	--	--	SPACE ONLY	--
M...	ELEV #2 SMOKE CURTAIN	12	20 A	31	1	0.40 0.00			--	32	--	--	SPACE ONLY	--
O...	FIRE SMOKE DAMPER	12	20 A	33	1		0.60 0.00		--	34	--	--	SPACE ONLY	--
O...	FIRE SMOKE DAMPER	12	20 A	35	1			0.50 0.00	--	36	--	--	SPACE ONLY	--
O...	FIRE SMOKE DAMPER	12	20 A	37	1	0.20 0.00			--	38	--	--	SPACE ONLY	--
O...	FIRE SMOKE DAMPER	12	20 A	39	1		0.40 0.00		--	40	--	--	SPACE ONLY	--
R...	REPEATER	12	20 A	41	1			0.30 0.00	--	42	--	--	SPACE ONLY	--
R...	SPRINKLER BELL	12	20 A	43	1	0.20 0.20			--	44	--	--	SPACE ONLY	--
M...	HOT BOX	12	20 A	45	1		1.50 0.00		--	46	--	--	SPACE ONLY	--
M...	HOT BOX	12	20 A	47	1			1.50 0.00	--	48	--	--	SPACE ONLY	--
--	SPARE	--	20 A	49	1	0.00 0.00			--	50	--	--	SPACE ONLY	--
--	SPARE	--	20 A	51	1		0.00 0.00		--	52	--	--	SPACE ONLY	--
--	SPARE	--	20 A	53	1			0.00 0.00	--	54	--	--	SPACE ONLY	--
--	SPARE	--	20 A	55	1	0.00 0.00			--	56	--	--	SPACE ONLY	--
--	SPARE	--	20 A	57	1		0.00 0.00		--	58	--	--	SPACE ONLY	--
--	SPARE	--	20 A	59	1			0.00 0.00	--	60	--	--	SPACE ONLY	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	2231 VA	125.00%	2789 VA
LE	LIGHTING - EXTERIOR	1211 VA	125.00%	1514 VA
H	HEATING	39176 VA	100.00%	39176 VA
C	COOLING	0 VA	0.00%	0 VA
V	VENTILATION	54 VA	100.00%	54 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	8060 VA	100.00%	8060 VA
WH	WATER HEATER	0 VA	0.00%	0 VA
MS	MISC.	3800 VA	100.00%	3800 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
RF	RECEPTACLE - FUTURE	0 VA	0.00%	0 VA
LF	LIGHTING - FUTURE	0 VA	0.00%	0 VA
HF	HEATING - FUTURE	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. RED LOCK-ON ATTACHMENT.

TOTAL KVA (CONNECTED):	56.23 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	57.09 kVA	167.0 A	147.1 A	157.3 A
TOTAL AMP. (CONNECTED):	156 A			
TOTAL AMP. (DEMAND):	158 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)
F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HP5B

VOLTAGE: 208Y/120 3Ø | **FED FROM:** HP5A
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 250 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
CO OLING	HP-2.1	12	20 A	1	3	1.13 1.12			2	2	20 A	12	HP-4.1	CO OLING
				3			1.13 1.12			4				
				5				1.13 1.12		6				
CO OLING	HP-2.2	10	25 A	7	3	1.40 1.52			2	8	30 A	10	HP-4.2	CO O...
				9			1.40 1.52			10				
				11				1.40 1.12		12				
CO O...	HP-2.3	10	30 A	13	2	1.50 1.12			3	14	20 A	12	HP-4.3	CO OLING
				15			1.50 1.12			16				
CO O...	HP-2.4	10	25 A	17	2	1.18 1.18			2	18	25 A	10	HP-4.4	CO O...
				19				1.18 1.18		20				
CO OLING	HP-3.1	12	20 A	21	3		1.12 1.12			22	20 A	12	HP-5.1	CO OLING
				23				1.12 1.12	3	24				
				25		1.12 1.12				26				
CO OLING	HP-3.2	12	20 A	27	3		1.12 1.52		2	28	30 A	10	HP-5.2	CO O...
				29				1.12 1.52		30				
				31		1.12 1.12				32				
CO O...	HP-3.3	10	30 A	33	2		1.52 1.12		3	34	20 A	12	HP-5.3	CO OLING
				35				1.52 1.12		36				
CO O...	HP-3.4	10	25 A	37	2	1.18 1.18			2	38	25 A	10	HP-5.4	CO O...
				39			1.18 1.18			40				
--	SPARE	--	20 A	41	1			0.00 0.00	1	42	20 A	--	SPARE	--
--	SPARE	--	20 A	43	1	0.00 0.00			1	44	20 A	--	SPARE	--
--	SPARE	--	20 A	45	1		0.00 0.00		1	46	20 A	--	SPARE	--
--	SPARE	--	20 A	47	1			0.00 0.00	1	48	20 A	--	SPARE	--
--	SPARE	--	20 A	49	1	0.00 0.00			1	50	20 A	--	SPARE	--
--	SPARE	--	20 A	51	1		0.00 0.00		1	52	20 A	--	SPARE	--
--	SPARE	--	20 A	53	1			0.00 0.00	1	54	20 A	--	SPARE	--
--	SPARE	--	20 A	55	1	0.00 0.00			1	56	20 A	--	SPARE	--
--	SPARE	--	20 A	57	1		0.00 0.00		1	58	20 A	--	SPARE	--
--	SPARE	--	20 A	59	1			0.00 0.00	1	60	20 A	--	SPARE	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	0 VA	0.00%	0 VA
LE	LIGHTING - EXTERIOR	0 VA	0.00%	0 VA
H	HEATING	0 VA	0.00%	0 VA
C	COOLING	49419 VA	100.00%	49419 VA
V	VENTILATION	0 VA	0.00%	0 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	0 VA	0.00%	0 VA
WH	WATER HEATER	0 VA	0.00%	0 VA
MI	MISC.	0 VA	0.00%	0 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. RED LOCK-ON ATTACHMENT.

TOTAL KVA (CONNECTED):	49.42 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	49.42 kVA	144.9 A	150.6 A	122.4 A
TOTAL AMP. (CONNECTED):	137 A			
TOTAL AMP. (DEMAND):	137 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)
F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HP3

VOLTAGE: 208Y/120 3Ø | **FED FROM:** DP3
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P1
MAIN: 250 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
OI...	LTS - LEVEL 3	12	20 A	1	1	1.46 4.19			2	2	60 A	4	IDU-3.1	HE A...
LI...	LTS - LEVEL 3	12	20 A	3	1		0.93 4.19			4				
LI...	LTS - LEVEL 3	12	20 A	5	1			0.63 2.80		6				
R...	REC - LEVEL 3	12	20 A	7	1	1.26 2.80			3	8	60 A	4	IDU-3.2	HE ATING
R...	REC - LEVEL 3	12	20 A	9	1		1.26 2.80			10				
R...	REC - LEVEL 3	12	20 A	11	1			1.26 4.06		12				
R...	REC - LEVEL 3	12	20 A	13	1	1.08 4.06			2	14	50 A	6	IDU-3.3	HE A...
R...	REC - HSKP 3005	12	20 A	15	1		0.18 3.72			16				
R...	REC - TELE 3012	12	20 A	17	1			0.72 3.72		18				
M...	NACP - LEVEL 3 (NOTE 5)	12	20 A	19	1	0.00 0.50			1	20	20 A	12	WH2 CONTROL - LEVEL3	W...
V...	EF-3.1	12	20 A	21	1		0.02 0.50		1	22	20 A	12	WH2 CONTROL - LEVEL 3	W...
OI...	FIRE SMOKE DAMPER	12	20 A	23	1			0.40 0.02	1	24	20 A	12	EF-3.2	V...
OI...	FIRE SMOKE DAMPER	12	20 A	25	1	0.50 1.50			1	26	20 A	12	EWH-3.1	H...
OI...	FIRE SMOKE DAMPER	12	20 A	27	1		0.60 1.50		1	28	20 A	12	EWH-3.2	H...
OI...	FIRE SMOKE DAMPER	12	20 A	29	1			0.00 1.50	1	30	20 A	12	EWH-3.3	H...
R...	REPEATER	12	20 A	31	1	0.20 0.00			--	32	--	--	SPACE ONLY	--
--	SPARE	--	20 A	33	1		0.00 0.00		--	34	--	--	SPACE ONLY	--
--	SPARE	--	20 A	35	1			0.00 0.00	--	36	--	--	SPACE ONLY	--
--	SPARE	--	20 A	37	1	0.00 0.00			--	38	--	--	SPACE ONLY	--
--	SPARE	--	20 A	39	1		0.00 0.00		--	40	--	--	SPACE ONLY	--
--	SPARE	--	20 A	41	1			0.00 0.00	--	42	--	--	SPACE ONLY	--

	LOAD	Connected Load	Demand Factor	Estimated Demand
L	LIGHTS	1922 VA	125.00%	2403 VA
LE	LIGHTING - EXTERIOR	1107 VA	125.00%	1383 VA
H	HEATING	36832 VA	100.00%	36832 VA
C	COOLING	0 VA	0.00%	0 VA
V	VENTILATION	36 VA	100.00%	36 VA
M	MOTORS	0 VA	0.00%	0 VA
K	KITCHEN	0 VA	0.00%	0 VA
R	RECEPTACLES	5960 VA	100.00%	5960 VA
WH	WATER HEATER	1000 VA	100.00%	1000 VA
MI	MISC.	0 VA	0.00%	0 VA
S	Spare	0 VA	0.00%	0 VA
E	ELEVATOR	0 VA	0.00%	0 VA
LD	LAUNDRY	0 VA	0.00%	0 VA

NOTES:
1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
2. THIS PANEL SHALL BE U.L. LISTED
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. RED LOCK-ON ATTACHMENT.

TOTAL KVA (CONNECTED):	48.36 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	49.11 kVA	147.0 A	131.6 A	125.9 A
TOTAL AMP. (CONNECTED):	134 A			
TOTAL AMP. (DEMAND):	136 A			

LOAD CLASSIFICATION ABBREVIATIONS (CONT.)
F - FEEDER FOR DOWN STREAM PANEL. LOADS ARE INCLUDED IN THE PANEL LOAD SUMMARY.

PANEL: HP5A

VOLTAGE: 208Y/120 3Ø | **FED FROM:** SWBD2
MOUNTING: SURFACE | **MAIN TYPE:** MLO | **MFR:** SIEMENS
ENCLOSURE: NEMA1 | **PHASE:** 3 | **TYPE:** P5
MAIN: 600 A | **WIRE:** 4 | **AIC:** 65 KAIC

LC Abbr	Load Served	Wire	Trip	Ckt No	Pole	A	B	C	Pole	Ckt No	Trip	Wire	Load Served	LC Abbr
O...	LTS - LEVEL 5	12	20 A	1	1	1.38 4.19			2	2	60 A	4	IDU-5.1	HE A...
LI...	LTS - LEVEL 5	12	20 A	3	1		0.64 4.19			4				
LI...	LTS - LEVEL 5	12	20 A	5	1			0.86 2.71		6				
O...	LTS - ROOF & ATTIC	12	20 A	7	1	0.98 2.71			3	8	50 A	6	IDU-5.2	HE ATING
R...	REC - LEVEL 5	12	20 A	9	1		1.44 2.71			10				
R...	REC - LEVEL 5	12	20 A	11	1			1.26 4.19		12				
R...	REC - LEVEL 5	12	20 A	13	1	1.26 4.19			2	14	60 A	4	IDU-5.3	HE A...
R...	REC - HSKP 5005	12	20 A	15	1		0.18 3.72			16				
--	SPARE	--	20 A	17	1			0.00 3.72		18				
M...	NACP - LEVEL 5 (NOTE 5)	12	20 A	19	1	0.00 17.03				20				
R...	REC - ROOF	12	20 A	21	1		1.08 17.71		3	22	250 A	250	PANEL - HP5B	CO OLING
R...	REC - 5004	12	20 A	23	1			0.72 14.69		24				
O...	FIRE SMOKE DAMPER	12	20 A	25	1	0.40 0.00			1	26	20 A	--	SPARE	--
O...	FIRE SMOKE DAMPER	12	20 A	27	1		0.40 0.00		1	28	20 A	--	SPARE	--
O...	FIRE SMOKE DAMPER	12	20 A	29	1			0.20 0.00	1	30	20 A	--	SPARE	--
O...	FIRE SMOKE DAMPER	12	20 A	31	1	0.40 0.00			1	32	20 A	--	SPARE	--
R...	REPEATER	12	20 A	33	1		0.20 0.00		1	34	20 A	--	SPARE	--
--	SPARE	--	20 A	35	1			0.00 0.00	1	36	20 A	--	SPARE	--
--	SPARE	--	20 A	37	1	0.00 0.00			1	38	20 A	--	SPARE	--
--	SPARE	--	20 A	39	1		0.00 0.50		1	40	20 A	12	WH1 - LEVEL 5	W...
--	SPARE	--	20 A	41	1			0.00 0.50	1	42	20 A	12	WH1 - LEVEL 5	W...
--	SPARE	--	20 A	43	1	0.00 2.25			2	44	30 A	10	WH3 - LEVEL 5	WA T...
--	SPARE	--	20 A	45	1		0.00 2.25			46				
--	SPARE	--	20 A	47	1			0.00 1.50	1	48	20 A	12	EWH-5.1	H...
--	SPARE	--	20 A	49	1	0.00 1.50			1	50	20 A	12	EWH-5.2	H...
--	SPARE	--	20 A	51	1		0.00 1.50		1	52	20 A	12	EWH-4.3	H...
--	SPARE	--	20 A	53	1			0.00 0.01	1	54	20 A	12	EF-5.1	V...
--	SPARE	--	20 A	55	1	0.00 0.00			1	56	20 A	--	SPARE	--
--	SPARE	--	20 A	57	1		0.00 0.00		1	58	20 A	--	SPARE	--
M...	ELEV #1 SMOKE CURTAIN	12	20 A	59	1			0.40 0.40	1	60	20 A	12	ELEV #2 SMOKE CURT

FIRE PROTECTION DESIGN CRITERIA

SYMBOL	OCCUPANCY	TYPE	DESIGN DENSITY (GPM/SF)	HYDRAULIC REMOTE AREA (SF)	MAX. COVERAGE PER SPRINKLER HEAD (SF)	HOSE STREAM		AREAS OF COVERAGE
						INSIDE GPM	OUTSIDE GPM	
LH	LIGHT HAZARD	WET	0.10	1500	225	100	-	ENTIRE FACILITY, EXCEPT AS NOTED OTHERWISE
OH-1	ORDINARY HAZARD GROUP I	WET	0.15	1500	130	100	150	MECHANICAL ROOMS, STORAGE ROOMS, ELECTRICAL ROOMS, JANITORS CLOSETS, ETC.

APPLICABLE PUBLICATIONS: THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR THE DESIGN OF THE FIRE PROTECTION SYSTEM ON THIS PROJECT:

1. NFPA 13R - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS IN LOW RISE RESIDENTIAL OCCUPANCIES - 2013 EDITION
2. NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS - 2013 EDITION
3. NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS - 2013 EDITION

NOTES:
1. DURING DESIGN CALCULATIONS, AN ALLOWANCE SHALL BE MADE FOR A 250 GPM HOSE STREAM.
2. STANDPIPE SYSTEM: PROVIDE CLASS I, MANUAL WET PER NFPA 14 - 5.4.1.1 AND 7.7.3

RESIDENTIAL AREAS:

1. SPRINKLER AREA OF COVERAGE SHALL NOT EXCEED 144 SQ. FT. PER HEAD
2. DESIGN DENSITY: PROVIDE AT LEAST THE FLOW REQUIRED FOR THE MULTIPLE AND SINGLE SPRINKLER OPERATING CRITERIA SPECIFIED BY THE SPRINKLER'S LISTING OR PER NFPA 13 OR NFPA 13R AS APPLICABLE.
3. NUMBER OF DESIGN SPRINKLERS: UNDER SMOOTH FLAT CEILINGS, THE DESIGN SHALL INCLUDE ALL SPRINKLERS WITHIN A COMPARTMENT, UP TO A MAXIMUM OF FOUR SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND.
4. SPACING AND POSITIONING OF SPRINKLERS SHALL MEET ALL THE PERTINENT REQUIREMENTS OF NFPA 13 OR NFPA 13R AS APPLICABLE.

SPRINKLER SCHEDULE

1. PROVIDE ADJUSTABLE CONCEALED PENDENT SPRINKLERS ALL LAY-IN ACOUSTICAL TILE AND GYPBOARD CEILINGS. COORDINATE COLOR OF CONCEALED SPRINKLER HEAD COVER-PLATE WITH ARCHITECT.
2. LOCATE SPRINKLERS TO AVOID OBSTRUCTIONS BY CEILING MOUNTED DEVICES. WHERE CEILING DEVICES OBSTRUCT SPRINKLER DISCHARGE, ADD ADDITIONAL SPRINKLERS SPACED AROUND THE OBSTRUCTION.
3. PROVIDE BRASS UPRIGHT SPRINKLERS IN EXPOSED AREAS WITH NO FINISH CEILING.
4. PROVIDE BRASS PENDENT SPRINKLERS WITH SHIELDS IN MECHANICAL ROOMS, ELECTRIC ROOMS, GYMNASIUMS, STORAGE ROOMS AND OTHER AREAS WHERE EXPOSED SPRINKLERS ARE SUBJECT TO DAMAGE.
5. PROVIDE RECESSED DRY STEM PENDENT SPRINKLER WITH WHITE PLATE IN AREAS SUBJECT TO FREEZING.
6. PROVIDE RECESSED SIDEWALL SPRINKLERS AS REQUIRED OR AS INDICATED.
7. PROVIDE INTERMEDIATE TEMPERATURE SPRINKLERS (175° F - 225°F ACTIVATION TEMPERATURE) IN ELEC. ROOMS, BOILER ROOMS, DATA CLOSETS AND WHEN SPRINKLER IS LOCATED WITHIN 18" OF HVAC DIFFUSER.
8. PROVIDE HIGH TEMPERATURE SPRINKLERS (250° F - 300°F ACTIVATION TEMPERATURE) IN KILN ROOMS OR OTHER AREAS SUBJECT TO HIGH TEMPERATURES.

* INSTALL SPRINKLERS IN ACCORDANCE WITH NFPA 13 AND THE MANUFACTURERS APPROVAL LISTING.
* PROVIDE QUICK RESPONSE SPRINKLERS.

FLOW TEST DATA

DATE / TIME	LOCATION	PRESSURE		FLOW (GPM)	FLOW AT 20 PSI (GPM)
		STATIC (PSI)	RESIDUAL (PSI)		
12-17-2020 09:00 AM	HYDRANT #029-218FH OFF NW HOPE LANE	98	60	1920	2832

FLOW TEST PERFORMED BY: KANSAS CITY FIRE DEPARTMENT

FLOW TEST NOTES:

1. THE CONTRACTOR SHALL OBTAIN A NEW FIRE FLOW TEST ON WHICH TO BASE THEIR CALCULATIONS.
2. THE FLOW TEST USED FOR THE WORKING PLAN DESIGN SHOULD BE PERFORMED AS INDICATED IN NFPA 291 WHICH USES TWO HYDRANTS; A PRESSURE HYDRANT AND A FLOW HYDRANT. THE TWO HYDRANTS SHALL BE AS CLOSE TO THE POINT OF CONNECTION AS POSSIBLE. PROVIDE A COPY OF THE FLOW TEST AND TEST HYDRANT LOCATIONS WITH THE SUBMITTED SPRINKLER SHOP DRAWING PACKAGE.

FIRE PROTECTION GENERAL NOTES

1. THE INTENT OF THESE PLANS IS TO PROVIDE INFORMATION TO THE REVIEWING AUTHORITIES THAT THE BUILDING WILL BE PROTECTED BY A SPRINKLER SYSTEM.
2. GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE FIRE PROTECTION SCOPE OF WORK. THE FIRE PROTECTION DRAWINGS AND SPECIFICATIONS SHALL NOT BE INTERPRETED AS WAIVING OR OVERRULING ANY REQUIREMENTS EXPRESSED IN GENERAL CONDITIONS.
3. SCOPE: PROVIDE DESIGN, FABRICATION AND INSTALLATION OF A HYDRAULICALLY CALCULATED AUTOMATIC SPRINKLER SYSTEM INCLUDING ALL SERVICES, MATERIALS, LABOR AND EQUIPMENT REQUIRED FOR A COMPLETE WORKING SPRINKLER SYSTEM IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE 2013 EDITION OF NFPA 13, THE OWNER'S INSURANCE UNDERWRITER, THE 2018 NORTH CAROLINA STATE FIRE CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
4. PERMITS: APPLY AND PAY FOR ALL NECESSARY PERMITS, FEES AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION. ACREAGE CHARGES, FACILITIES CHARGES AND BOND PROPERTY ASSESSMENTS ARE NOT TO BE CONSTRUED TO BE A PART OF THIS CONTRACT.
5. WARRANTY: PROVIDE A ONE YEAR WARRANTY, FROM THE DATE OF ACCEPTANCE OF WORK BY THE OWNER, FOR ALL SPRINKLER SYSTEM MATERIALS AND EQUIPMENT.
6. COORDINATE ALL SPRINKLER PIPING LOCATIONS, SPRINKLER LOCATIONS AND EQUIPMENT LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES. FINAL PIPING AND EQUIPMENT LOCATIONS SHALL BE A CODE COMPLIANT INSTALLATION FOR ALL TRADES.
7. DO NOT SCALE THE DRAWINGS, REFERENCE THE ARCHITECTURAL PLANS FOR DIMENSIONAL INFORMATION.
8. WHERE DISCREPANCIES ARE FOUND IN THE DRAWINGS AND SPECIFICATIONS THE MORE STRINGENT SHALL APPLY. CONTACT ENGINEER FOR CLARIFICATION.
9. OBTAIN A NEW FLOW TEST, LESS THAN 1 MONTH OLD, PRIOR TO STARTING THE DESIGN OF THE SPRINKLER SYSTEM. THE FLOW TEST CRITERIA SHALL INCLUDE THE STATIC PRESSURE, RESIDUAL PRESSURE, FLOW IN GPM, HORIZONTAL AND VERTICAL DISTANCE OF TEST FROM BASE OF FIRE RISER, THE NAME OF THE PERSON AND COMPANY WHOM PERFORMED THE FLOW TEST, THE TESTING COMPANY'S PHONE NUMBER, AND THE DATE AND TIME THE TEST WAS PERFORMED.
10. DESIGN AND HYDRAULICALLY CALCULATE THE SPRINKLER SYSTEM UTILIZING THE CURRENT FLOW TEST DATA. MEET ALL NFPA 13 REQUIREMENTS WHETHER OR NOT SPECIFICALLY INDICATED WITHIN THESE DOCUMENTS. TERMINATE THE HYDRAULIC CALCULATIONS AT THE CITY CONNECTION MINIMUM. INDICATE ON DRAWINGS ALL UNDERGROUND PIPE AND FITTINGS BOTH NEW AND EXISTING.
11. THE CONTRACTOR SHALL HAVE A REGISTERED FIRE PROTECTION ENGINEER ON STAFF WITH A CURRENT PROFESSIONAL ENGINEERING LICENSE TO PREPARE THE WORKING PLANS AND HYDRAULIC CALCULATIONS IN ACCORDANCE WITH NFPA 13 CHAPTER 23 "PLANS AND CALCULATIONS" AND THE LOCAL AUTHORITY HAVING JURISDICTION. THE PROFESSIONAL ENGINEER'S NAME, SIGNATURE AND SEAL NUMBER SHALL APPEAR ON THE WORKING DRAWINGS AND HYDRAULIC CALCULATIONS.
12. FOR PROJECTS LOCATED OUTSIDE NORTH CAROLINA AND SOUTH CAROLINA, FIRE SPRINKLER SHOP DRAWINGS SHALL BE REVIEWED AND SEALED (SIGNED) BY A REGISTERED FIRE PROTECTION ENGINEER IN THE STATE WHERE THE BUILDING PERMIT IS TO BE OBTAINED PRIOR TO SUBMITTING SHOP DRAWINGS TO THIS OFFICE FOR REVIEW.
13. PROVIDE DESIGN AND INSTALLATION OF SEISMIC RESTRAINT ELEMENTS FOR THE FIRE PROTECTION SYSTEM(S) IN COMPLIANCE WITH THE 2013 EDITION OF NFPA 13. REFER TO THE APPENDIX B ON THE ARCHITECTURAL DRAWINGS FOR THE SITE'S SEISMIC DESIGN CATEGORY.
14. SUBMIT WORKING PLANS, HYDRAULIC CALCULATIONS AND MATERIALS DATA AND ACCESSORIES IN ELECTRONIC FORMAT (PDF) TO THE ARCHITECT / ENGINEER FOR REVIEW AND OBTAIN APPROVAL BEFORE STARTING THE INSTALLATION OF THE SPRINKLER SYSTEM.
15. THE CONTRACTOR SHALL SUBMIT WORKING PLANS AND HYDRAULIC CALCULATIONS EXPEDIENTLY TO THE AUTHORITIES HAVING JURISDICTION. APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION SHALL BE OBTAINED BEFORE STARTING THE INSTALLATION OF THE SPRINKLER SYSTEM.
16. AT THE COMPLETION OF THE PROJECT, PROVIDE TWO SETS OF RECORD DRAWINGS TO THE OWNER, CLEARLY SHOWING ANY CHANGES AND/OR MODIFICATIONS, ADDITIONS OR DELETIONS TO AND FROM THE CONSTRUCTION DOCUMENTS. THESE SETS SHALL BE REVIEWED BY THE ARCHITECT / ENGINEER BEFORE BEING TURNING OVER TO THE OWNER.

INSTALLATION REQUIREMENTS:

1. PROVIDE ALL NECESSARY OFFSETS, RISES OR DROPS IN THE PIPING AND AUXILIARY DRAINS AS REQUIRED BY ALL APPLICABLE CODES WHETHER OR NOT SHOWN ON THE PLANS.
2. CONNECT ALL SPRINKLER ALARM, TAMPER AND DETECTION SYSTEMS TO THE BUILDINGS CENTRAL FIRE ALARM SYSTEM, COORDINATE LOCATIONS AND REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.
3. PIPE PENETRATIONS THRU WALLS, PARTITIONS AND FLOORS SHALL BE SLEEVED. CORE DRILLING THRU WALLS AND PARTITIONS IS PERMITTED IF PERFORMED IN A NEAT CRAFTSMAN LIKE MANNER. PIPES PENETRATING THRU EXTERIOR WALLS SHALL BE SEALED WATER TIGHT. INSTALL ESCUTCHEONS IN ALL EXPOSED AREAS.
4. CONCEAL PIPING ABOVE CEILINGS OR TIGHT TO UNDERSIDE OF STRUCTURE IN EXPOSED AREAS.
5. PAINT ALL EXPOSED FIRE PROTECTION SYSTEM PIPING (IN CLOSETS, STAIRWELLS, MECHANICAL ROOMS, ETC.). COLOR TO BE SELECTED BY THE ARCHITECT.
6. SPRINKLER LOCATIONS ARE TO BE IN THE CENTER OF THE CEILING TILE USING THE REFLECTED CEILING PLANS AND AS COORDINATED WITH THE CEILING CONTRACTOR.
7. WARRANT THE SYSTEM LABOR, MATERIALS AND EQUIPMENT FOR THE AMOUNT OF TIME SPECIFIED IN THE PROJECT MANUAL, IF NO WARRANTY SECTION IS PROVIDED, THEN WARRANT THE SYSTEM LABOR, MATERIAL AND EQUIPMENT FOR A MINIMUM OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. PRIOR TO TURNING THE COMPLETED SYSTEM OVER TO THE OWNER, REVIEW THE INSTALLATION WITH THE ARCHITECT / ENGINEER AND REPLACE OR REPAIR ANY DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.

TESTING AND FLUSHING:

1. OVERHEAD SPRINKLER PIPING: TESTED FOR A PERIOD OF TWO HOURS AT A HYDROSTATIC PRESSURE OF 200 LBS. AND ALL PIPING, VALVES, HEADS,ETC. SHALL BE WATERTIGHT.

FIRE PROTECTION LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
FP	FP	SPRINKLER PIPING WET
FPD	FPD	SPRINKLER PIPING DRY
SP	SP	STANDPIPE PIPING
PA	PA	PRE-ACTION PIPING
D	D	DRAIN PIPING
	-	PIPING ELBOW DOWN
	-	PIPING ELBOW UP
	-	PIPING CONTINUES
	OSY	OS&Y VALVE
	-	SHUT-OFF VALVE
	BF	BUTTERFLY VALVE
	CV	CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
	RPZ	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
	FDC	FIRE DEPARTMENT CONNECTION
	FHV	FIRE HOSE VALVE
	-	UPRIGHT SPRINKLER HEAD
	-	PENDANT SPRINKLER HEAD
	-	RECESSED SPRINKLER HEAD
	-	CONCEALED SPRINKLER HEAD
D	-	"D" REPRESENTS DRY SPRINKLER HEAD
	-	SIDEWALL SPRINKLER HEAD
	-	EXTENDED COVERAGE SIDEWALL SPRINKLER HEAD

ADDITIONAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MFG	MANUFACTURER
AFG	ABOVE FINISHED GRADE	PSI	POUNDS PER SQUARE INCH
BAS	BUILDING AUTOMATION SYSTEM	TS	TAMPER SWITCH
BFF	BELOW FINISHED FLOOR	TYP	TYPICAL
CLG	CEILING	WMG	WATER MOTOR GONG
CONT	CONTINUATION	WC	WATER COLUMN
DN	DOWN		
FS	FLOW SWITCH	EC	ELECTRICAL CONTRACTOR
FHV	FIRE HOSE VALVE	FSC	FOOD SERVICE CONTRACTOR
GPM	GALLONS PER MINUTE	GC	GENERAL CONTRACTOR
HP	HORSE POWER	MC	MECHANICAL CONTRACTOR
INV	INVERT ELEVATION	PC	PLUMBING CONTRACTOR
KW	KILOWATT		

FIRE PROTECTION MATERIALS

1. ALL PIPING SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA.
2. ABOVE GRADE PIPING: BLACK STEEL PIPING (ASTM A53, ASTM A135, OR ASTM A795) SHALL BE LISTED FOR FIRE SPRINKLER PIPING USE AND INCLUDE FM APPROVED MIC INHIBITING COATING. PIPING 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL PIPE THREADED, WELDED OR ROLL GROOVED FOR MECHANICAL FITTINGS. PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL PIPE WELDED, OR ROLL GROOVED FOR MECHANICAL FITTINGS.
3. THREADED FITTINGS: UL-LISTED, STANDARD WEIGHT SUITABLE FOR PRESSURE UP TO 175 PSIG, CAST IRON MEETING ASTM A126 OR MALLEABLE IRON MEETING ASTM A197. THREADED CAST IRON FITTINGS SHALL MEET ANSI B16.4; FLANGED CAST IRON FITTINGS SHALL MEET ANSI B16.1. THREADED MALLEABLE IRON FITTINGS SHALL MEET ANSI B16.3.
4. GROOVED FITTINGS AND COUPLINGS: UL-LISTED, DUCTILE IRON MEETING ASTM A536, UTILIZING AN EDPM GASKET. PLAIN-END FITTINGS AND COUPLINGS, OR WELDED-SEGMENTED FITTINGS SHALL NOT BE USED. CHANGES IN PIPE DIAMETER SHALL BE MADE USING TAPERED REDUCING FITTINGS. BUSHINGS OR GROOVED-END REDUCING COUPLINGS SHALL NOT BE USED UNLESS STANDARD REDUCING FITTINGS ARE NOT REGULARLY AVAILABLE.
5. USE HOT-DIPPED GALVANIZED PIPING AND FITTINGS FOR COMPRESSED AIR PIPING, WATER MOTOR ALARM PIPING, BALL DRIP DISCHARGES AND TEST / DRAIN PIPING SUBJECT TO ALTERNATE WETTING AND DRYING.
6. PIPE HANGERS: UL-LISTED SWIVEL LOOP TYPE WITH PRE-GALVANIZED CARBON STEEL BAND. HANGER RODS SIZED PER NFPA 13, UL-LISTED STEEL OR MALLEABLE IRON BEAM CLAMPS, UL-LISTED ANCHORS. POWER DRIVEN ANCHORS SHALL NOT BE USED.
7. VALVES: OS&Y TYPE, IRON BODY BRONZE MOUNTED, DOUBLE DISC WITH PARALLEL SEATS, OR; BUTTERFLY, LUG TYPE, DUCTILE IRON BODY, STAINLESS STEEL STEM, ALUMINUM BRONZE DISC, PHENOLIC RING AND BUNA N SEAT. VALVES SHALL BE FM/UL LISTED AND APPROVED FOR FIRE PROTECTION SERVICE.
8. ESCUTCHEON PLATES: PROVIDE CHROME PLATED ESCUTCHEON PLATES WHERE PIPES PASS THROUGH FINISHED WALLS, FLOORS, OR CEILING. PROVIDE PRIME COAT PAINTED ESCUTCHEON PLATES WHERE PIPES PASS THROUGH WALLS, CEILINGS, ETC. IN UNFINISHED EXPOSED AREAS.

FIRE PROTECTION SHEET INDEX

GENERAL NOTES

PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041402 BYRON A. ANDERSON

02/08/2021

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PROJECT TITLE

John Knox Village

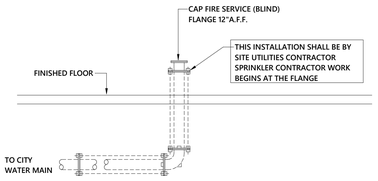
PROJECT DESIGNER	DESIGNER
PROJECT ARCHITECT	PA
PROJECT ENGINEER	Designer
DRAWN BY	TAW
CHECKED BY	DAR
APPROVED BY	

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

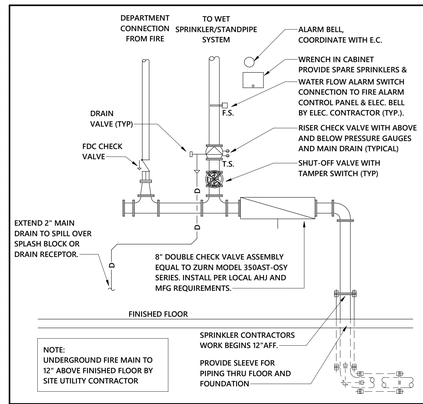
DRAWING TITLE

FIRE PROTECTION LEGEND AND NOTES

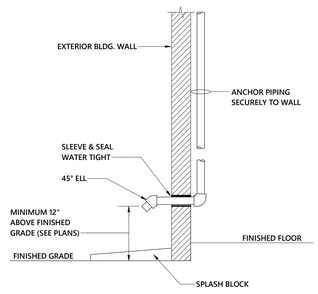
COMM. NO.	DATE
19132.00	January 18, 2021
DRAWING	SHEET
FP0.1	1 OF 9



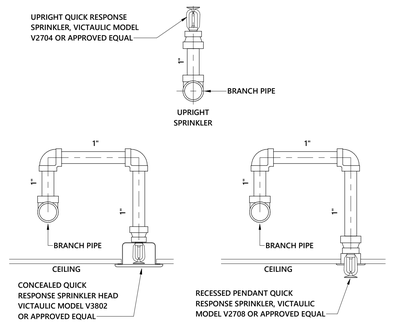
1 FIRE SERVICE ENTRY DETAIL
NOT TO SCALE



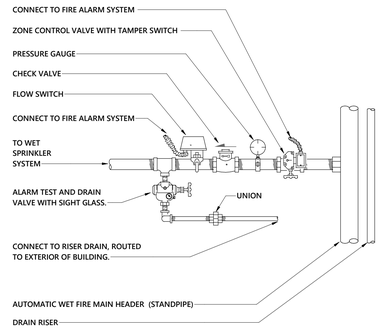
2 SPRINKLER RISER DETAIL (WITH BACKFLOW)
NOT TO SCALE



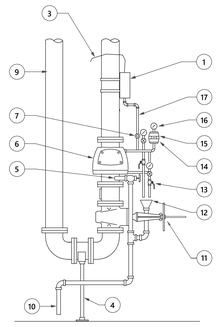
3 TYPICAL DRAIN THRU WALL
NOT TO SCALE



4 TYPICAL RETURN BEND SCHEMATIC
NOT TO SCALE



5 WET SPRINKLER RISER ASSEMBLY - ABOVE CEILING
NOT TO SCALE



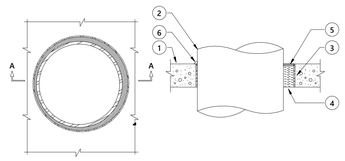
ITEM	DESCRIPTION
1	STRAP-ON AIR COMPRESSOR
2	NOT USED
3	CONNECT TO ELEC.
4	PIPE STAND
5	MAIN DRAIN VALVE
6	DRY PIPE ALARM VALVE
7	AIR PRESSURE MAINTENANCE DEVICE
8	NOT USED
9	SUPPLY FROM MAIN
10	ROUTE TO FLOOR DRAIN
11	O.S.&Y. VALVE WITH TAMPER SWITCH
12	DRAIN CUP
13	ALARM TEST VALVE
14	ALARM LINE STRAINER (HIDDEN)
15	PRESSURE SWITCH (HIDDEN)
16	ACCELERATOR
17	AIR SUPPLY FROM COMPRESSOR

AIR COMP. AT 230V, 1Ø, 1 HP

6 DRY PIPE VALVE RISER DETAIL
NOT TO SCALE

U.L. SYSTEM NO. CAJ1155
METAL PIPE THROUGH A SLEEVE IN CONCRETE WALL OR FLOOR

F RATING = 3-HR.
T RATING = 0-HR.
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = 4 CFM/SQ. FT.



TOP VIEW SECTION A-A

1. FLOOR OR WALL ASSEMBLY: B. U.L. CLASSIFIED CONCRETE BLOCK WALL (MINIMUM 8" BLOCK). A. MINIMUM 4-1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR.

2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 20" DIAMETER STEEL PIPE.
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER EMT.

3. OPTIONAL: MAXIMUM 22" DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER).

4. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) RECESSED 1/2" FROM TOP OF SLEEVE.

5. MINIMUM 1/2" DEPTH HILTI FS-ONE FIRESTOP SEALANT.

6. A GENEROUS BEAD OF HILTI FS-ONE FIRESTOP SEALANT AROUND OUTER PERIMETER OF STEEL SLEEVE.

NOTES:
1. MAXIMUM DIAMETER OF OPENING = 22".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-1/2".

INSTALLATION INSTRUCTIONS FOR UL NO.CAJ1155

STEP 1 - PREPARATION: to application of firestopping materials. All surfaces must be clean, sound, dry and frost free prior

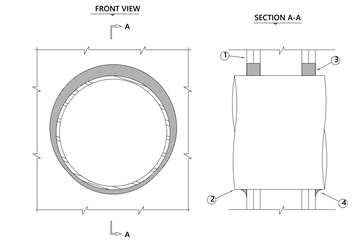
STEP 2 - BACKING MATERIAL: Firmly pack mineral wool around the penetrating item recessing it 1/2" below surface of the sleeve (or both ends of sleeve in wall)

STEP 3 - FIRESTOP SEALANT: Apply the Firestop Sealant over the backing material to a min. depth of 1/2" flush with the end(s) of the sleeve. Wall penetrations require Firestop Sealant installed on both sides. Leave completed seal undisturbed for 48 hours.

7 U.L. SYSTEM NO CAJ-1155 DETAIL
NOT TO SCALE

U.L. SYSTEM NO. WL1054
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY

F RATING = 1-HR OR 2-HR
T RATING = 0-HR
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = 4 CFM/SQ. FT.



1. GYPSUM-WALL ASSEMBLY (1-HR. AND 2-HR. FIRE RATING)(2-HR. SHOWN).

2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 20" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER STEEL EMT.

1. MINIMUM DEPTH
   A. MINIMUM 5/8" DEPTH HILTI FS-ONE FIRESTOP SEALANT = 1-HR. FIRE-RATING. B. MINIMUM 1-1/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT = 2-HR. FIRE-RATING.

2. MINIMUM 1/2" BEAD HILTI FS-ONE FIRESTOP SEALANT FOR POINT OF CONTACT.

NOTES: 1. MAXIMUM DIAMETER OF OPENING = 22-1/4".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".

INSTALLATION INSTRUCTIONS FOR UL NO.WL1054

STEP 1 - PREPARATION: All surfaces must be clean, sound, dry and frost free prior to application of firestopping materials.

STEP 2 - FIRESTOP SEALANT: Apply a minimum 5/8" or 1-1/4" depth of FS-ONE in the annular space around the penetrating item. Tool excess sealant beyond perimeter of the opening 1/2" onto wall surface. Leave completed seal undisturbed for for 48 hours.

8 U.L. SYSTEM NO WL1054 DETAIL
NOT TO SCALE

GENERAL NOTES

PERMIT SET

02/08/2021

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PROJECT ARCHITECT	:	PA
PROJECT ENGINEER	:	Designer
DRAWN BY	:	TAW
CHECKED BY	:	DAR
APPROVED BY	:	

NO.	REVISION DESCRIPTION	DATE
1	Plan Review Comments	02/08/21

DRAWING TITLE
FIRE PROTECTION DETAILS AND SCHEMATICS

COMM. NO.	DATE
19132.00	January 18, 2021
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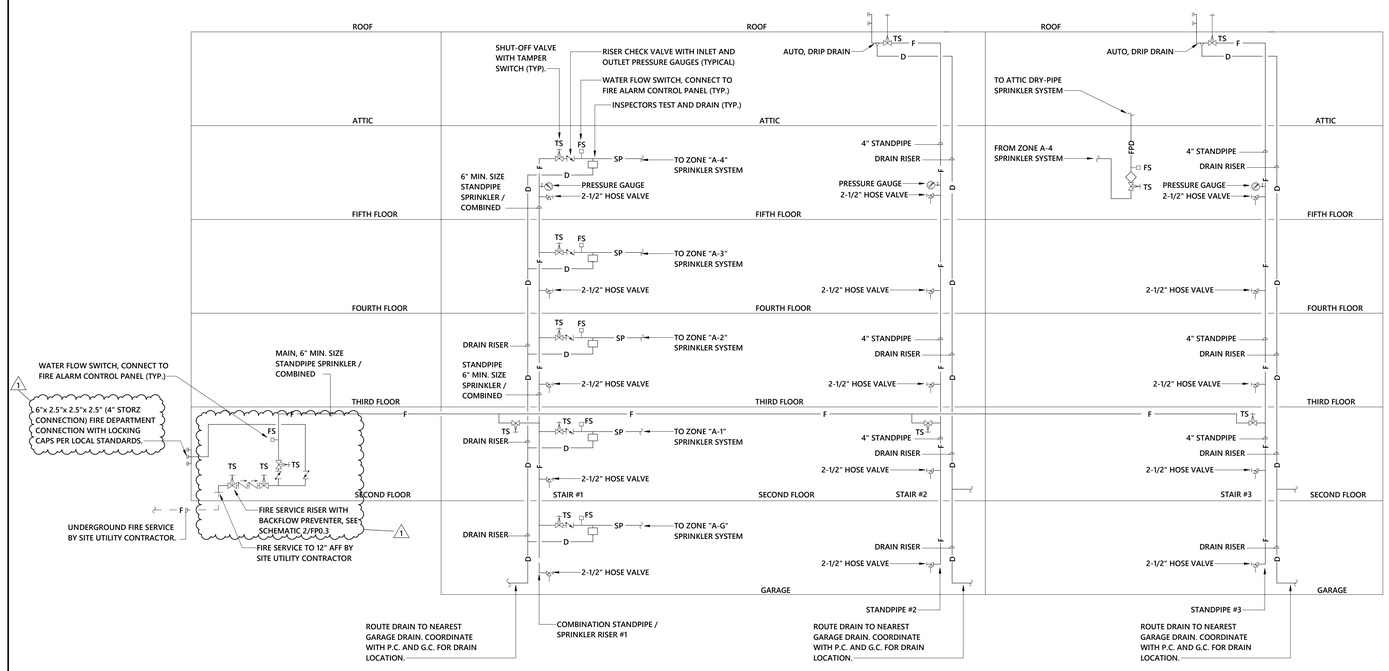
FP0.2	2 OF 9



1 **FIRE PROTECTION STANDPIPE RISER DIAGRAM**
NO SCALE

GENERAL NOTES

PERMIT SET

STATE OF NORTH CAROLINA
BYRON A. FORD
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PROFESSIONAL ENGINEER
01/18/2021

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DRAWING TITLE
FIRE PROTECTION STANDPIPE RISER DIAGRAM

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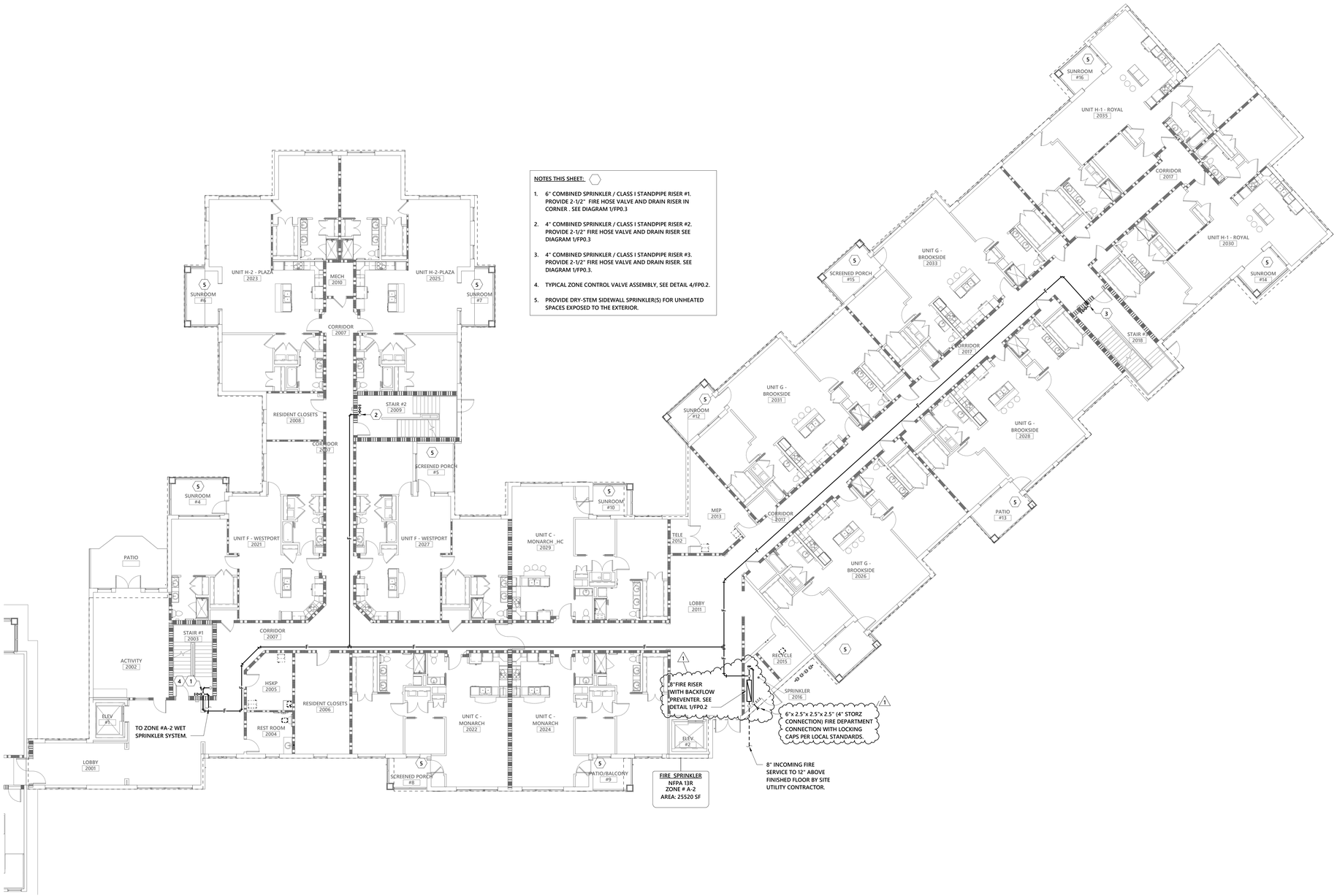
FP0.3	3 OF 9



NOTES THIS SHEET:

1. 6" COMBINED SPRINKLER / CLASS I STANDPIPE RISER #1. PROVIDE 2-1/2" FIRE HOSE VALVE AND DRAIN RISER IN CORNER . SEE DIAGRAM 1/FP0.3
2. 4" COMBINED SPRINKLER / CLASS I STANDPIPE RISER #2. PROVIDE 2-1/2" FIRE HOSE VALVE AND DRAIN RISER SEE DIAGRAM 1/FP0.3
3. 4" COMBINED SPRINKLER / CLASS I STANDPIPE RISER #3. PROVIDE 2-1/2" FIRE HOSE VALVE AND DRAIN RISER. SEE DIAGRAM 1/FP0.3.
4. TYPICAL ZONE CONTROL VALVE ASSEMBLY, SEE DETAIL 4/FP0.2.
5. PROVIDE DRY-STEM SIDEWALL SPRINKLER(S) FOR UNHEATED SPACES EXPOSED TO THE EXTERIOR.

1 SECOND FLOOR OVERALL FIRE PROTECTION PLAN

3/32" = 1'-0"

N

PLAN NORTH

GENERAL NOTES

PERMIT SET

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DRAWING TITLE

SECOND FLOOR OVERALL FIRE PROTECTION PLAN

COMM. NO.	DATE
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DRAWING

FP1.1

SHEET

5 OF 9